

# 19" LCD TV

## chassis FL11.0

# SERVICE MANUAL

## Contents

### TYPE A

19MF301B/F7	MAGNAVOX	(Serial No.: TH1)
LC190EM2	EMERSON	(Serial No.: TH1)
LC190EM2	EMERSON	(Serial No.: TH2)

### TYPE B

LC190SS2	SYLVANIA	(Serial No.: TH1)
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### TYPE C


19ME601B/F7	MAGNAVOX	(Serial No.: DS2)
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This service manual contains information of different types of models.  
Make sure to refer to the section describing your model.

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## **IMPORTANT SAFETY NOTICE**

**Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.**

**It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.**

<p><b>The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.</b></p>
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# SPECIFICATIONS

## < TUNER / NTSC >

ANT. Input ----- 75  $\Omega$  Unbal., F type

Description	Condition	Unit	Nominal	Limit
1. AFT Pull-In Range	---	MHz	$\pm 2.3$	$\pm 2.1$
2. Synchronizing Sens.	TV.ch.4	dB $\mu$	18	20
	CA.ch.31	dB $\mu$	18	20
	CA.ch.87	dB $\mu$	18	23

## < TUNER / ATSC >

Description	Condition	Unit	Nominal	Limit
1. Received Freq. Range (-28dBm)	---	kHz	---	$\pm 100$
2. ATSC Dynamic Range (min / max)	ch.4	dBm	---	-76/0
	ch.10	dBm	---	-76/0
	ch.41	dBm	---	-76/+4

## < LCD PANEL >

Description	Condition	Unit	Nominal	Limit
1. Native Pixel Resolution	Horizontal	pixels	1366	---
	Vertical	pixels	768	---
2. Brightness (w / filter)	---	cd/m <sup>2</sup>	280 [19MF301B/F7, LC190EM2, LC190SS2] 250 [19ME601B/F7]	---
3. Viewing Angle	Horizontal	°	-85 to 85	---
	Vertical	°	-80 to 80	---

## < VIDEO >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal	%	5	5 $\pm$ 5
	Vertical	%	5	5 $\pm$ 5
2. Color Temperature	---	°K	12000	---
	x		0.272	$\pm 2\%$
	y		0.278	$\pm 2\%$
	<Measurement condition>			
	Input signal: Internal pattern (40/70% raster) Measurement point: Screen center Measuring instrument: Made of KONICA MINOLTA Luminance meter CA-310 Aging time: 60min. (Retail MODE / 100IRE Raster HDMI 1080i@60) MODE setting of TV: Shipment setting / Retail MODE Ambient temperature: 25°C $\pm$ 5°C			
3. Resolution (composite video)	Horizontal	line	400	---
	Vertical	line	350	---



## < AUDIO >

All items are measured across 8  $\Omega$  load at speaker output terminal with L.P.F.

Description	Condition	Unit	Nominal	Limit
1. Audio Output (Volume MAX)	Lch/Rch	W	1.5/1.5 [19MF301B/F7, LC190EM2, 19ME601B/F7] 3.0/3.0 [LC190SS2]	---
2. Audio Distortion (NTSC)	500mW: Lch/Rch	%	0.5/0.5	2.0/2.0
3. Audio Freq. Response (NTSC)	-6dB: Lch -6dB: Rch	Hz Hz	70 to 10 k 70 to 10 k	--- ---

# IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

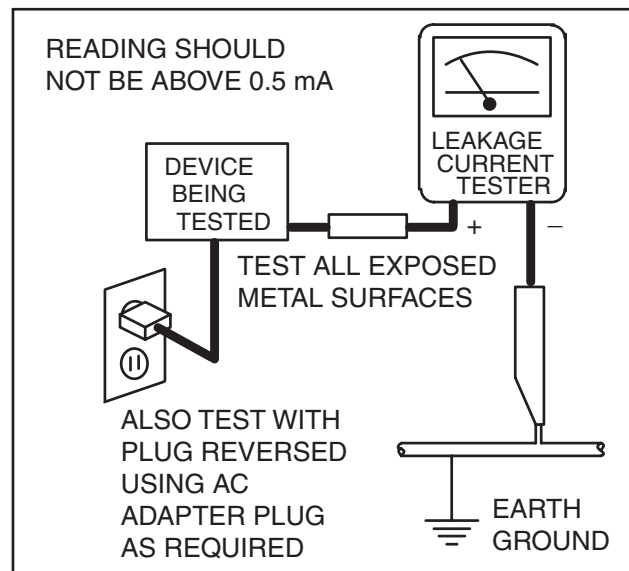
## Safety Precautions for LCD TV Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:

- a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
- b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the Liquid Crystal Panel and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.


- c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

- d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



**ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.**

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the Liquid Crystal Panel.

3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Hot Chassis Warning** -
  - a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0 V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
  - b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
  - c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
7. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## Precautions during Servicing

- A.** Parts identified by the **▲** symbol are critical for safety.  
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 11~13 lb (5~6 kg) of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.
- L.** When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

## Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

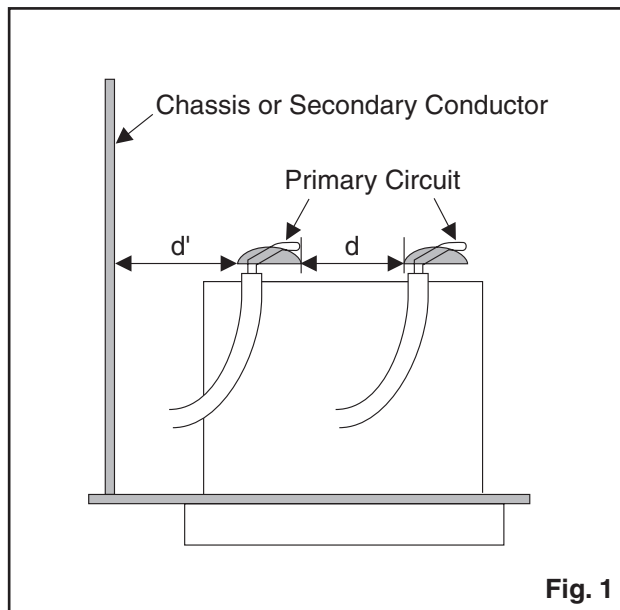
### 1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

**Table 1: Ratings for selected area**

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	$\geq 3.2$ mm (0.126 inches)

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.



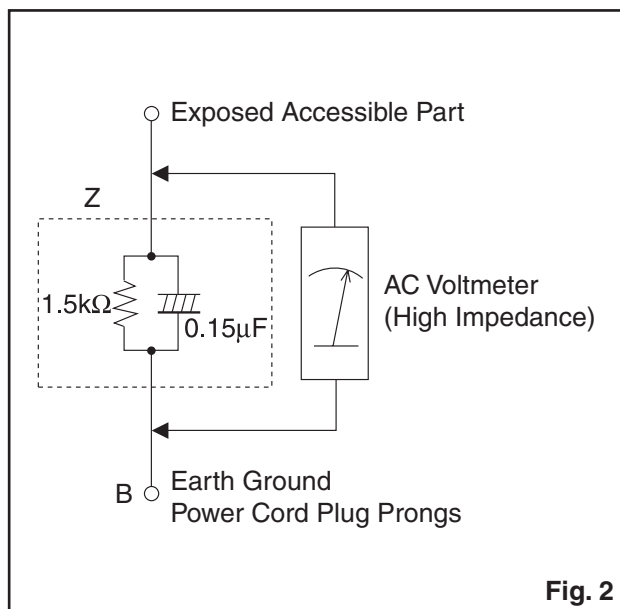
**Fig. 1**

### 2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

#### Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.



**Fig. 2**

**Table 2: Leakage current ratings for selected areas**

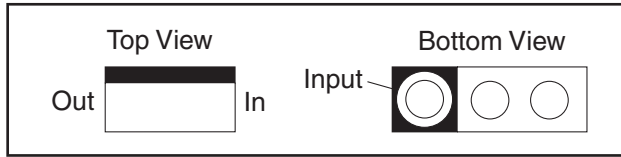
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 $\mu$ F CAP. & 1.5 kΩ RES. Connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.

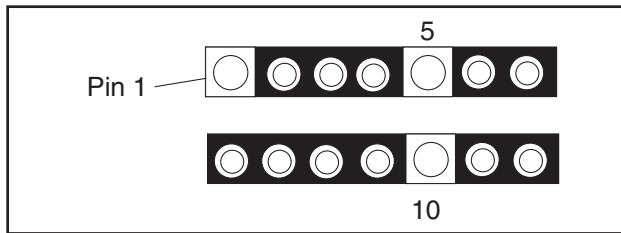
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

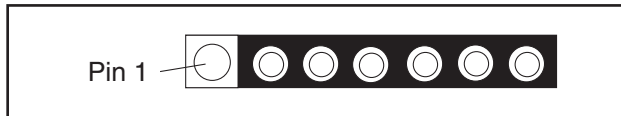
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

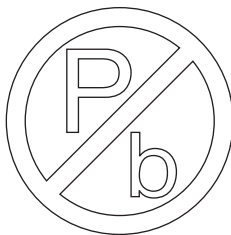


3. The 1st pin of every male connector is indicated as shown.



## Pb (Lead) Free Solder

**Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.**



Pb free mark

## How to Remove / Install Flat Pack-IC

### 1. Removal

**With Hot-Air Flat Pack-IC Desoldering Machine:**

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

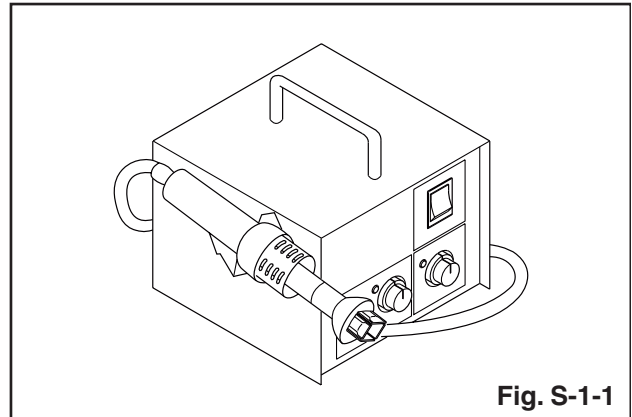


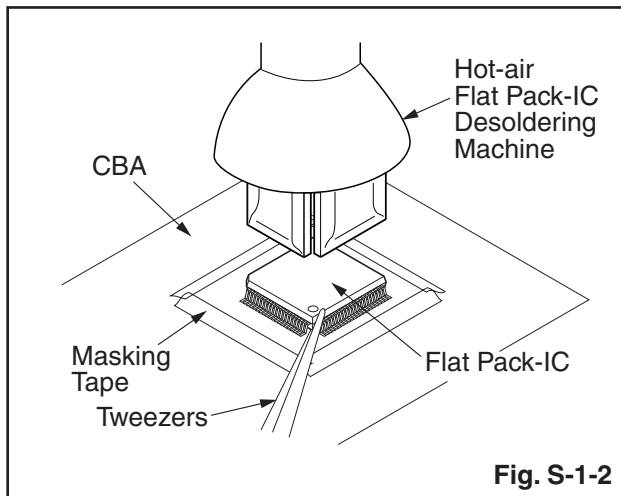
Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### CAUTION:

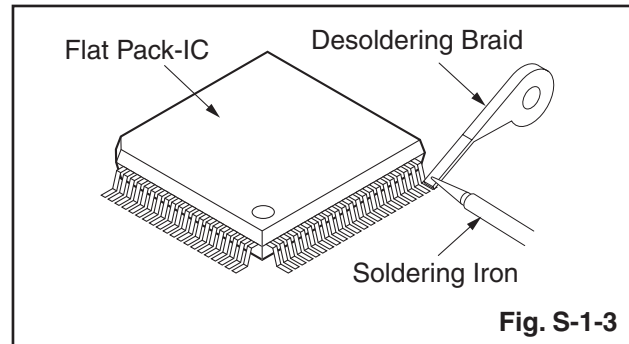
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

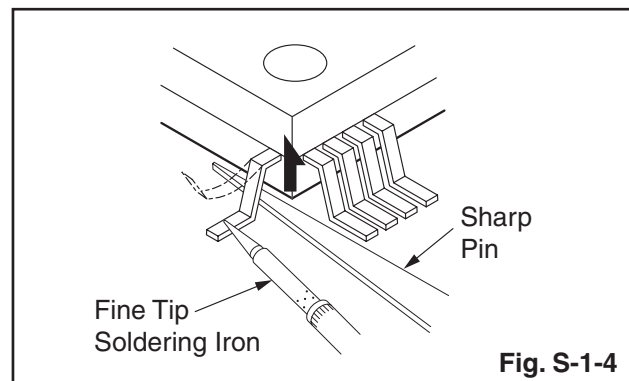


#### With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

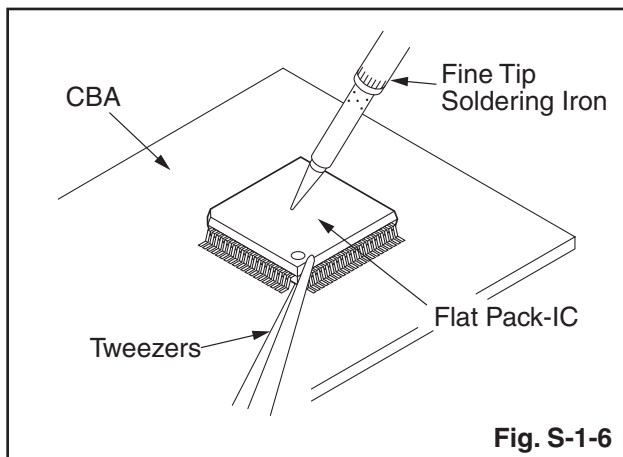
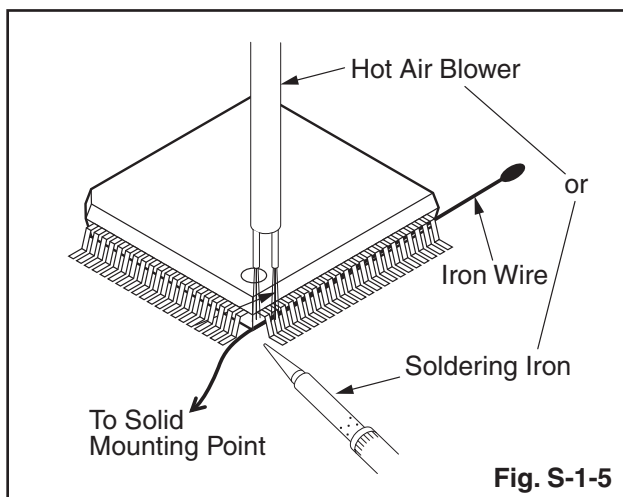


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### With Iron Wire:

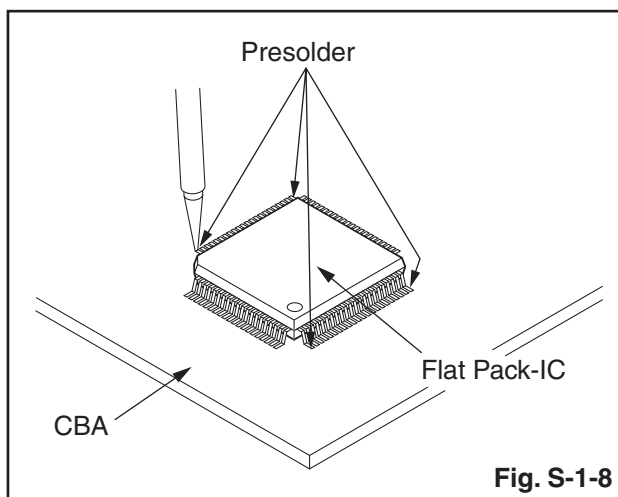
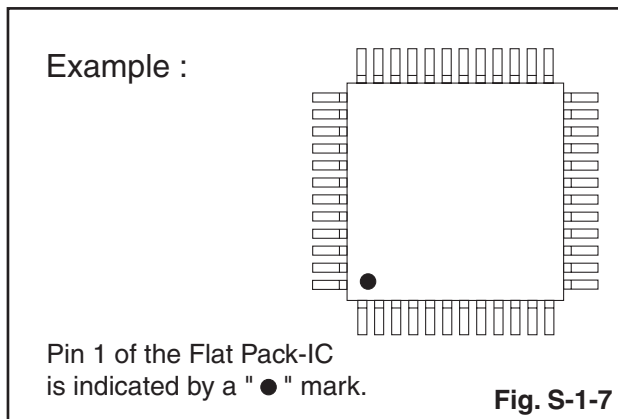
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**Note:** When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



### 2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the pin 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.





# Instructions for Handling Semi-conductors

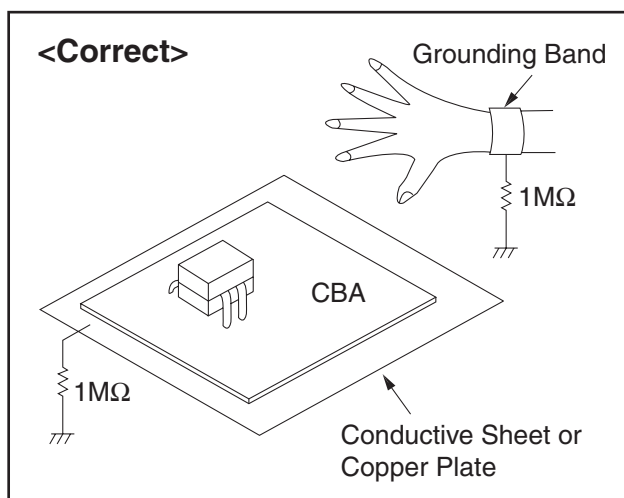
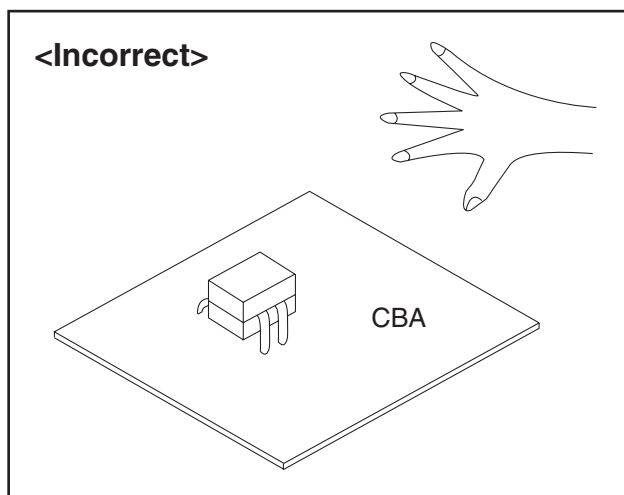
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 1. Ground for Human Body

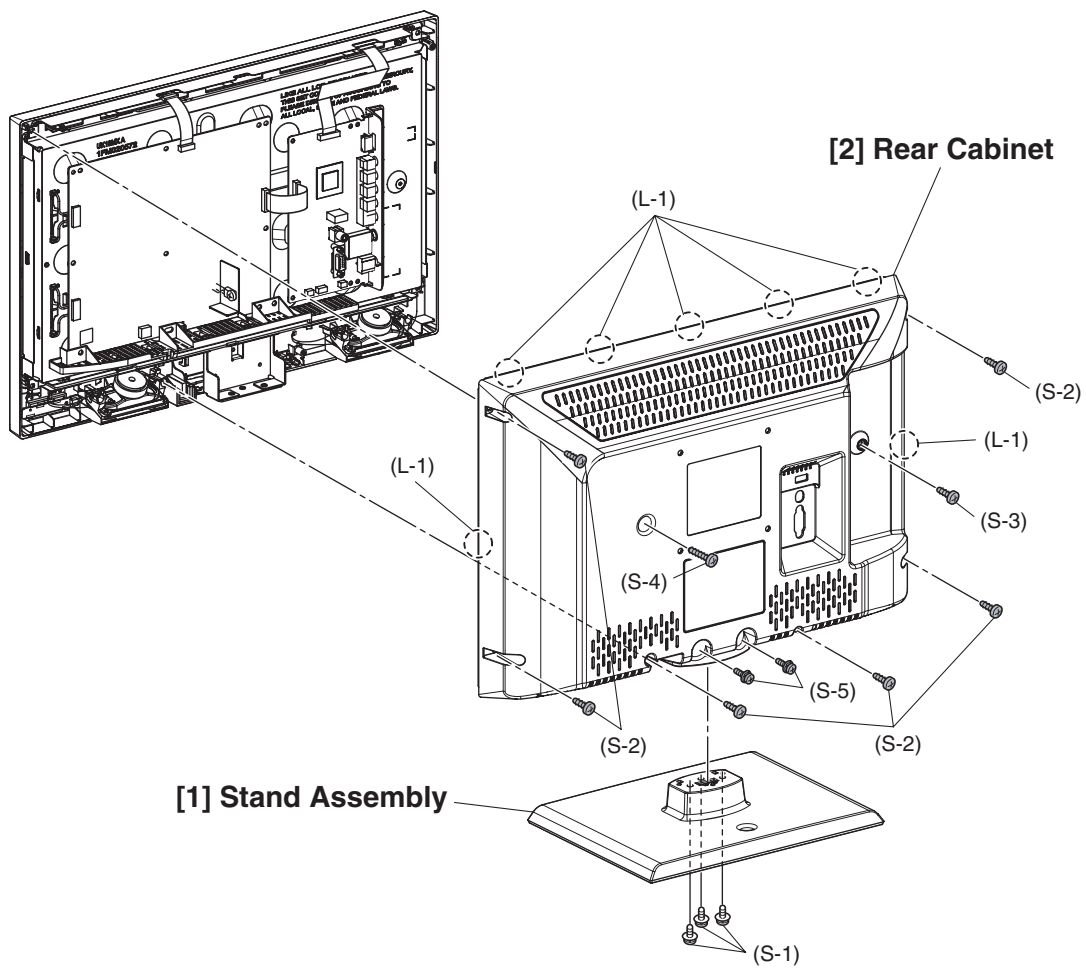
Be sure to wear a grounding band ( $1\text{ M}\Omega$ ) that is properly grounded to remove any static electricity that may be charged on the body.

## 2. Ground for Workbench

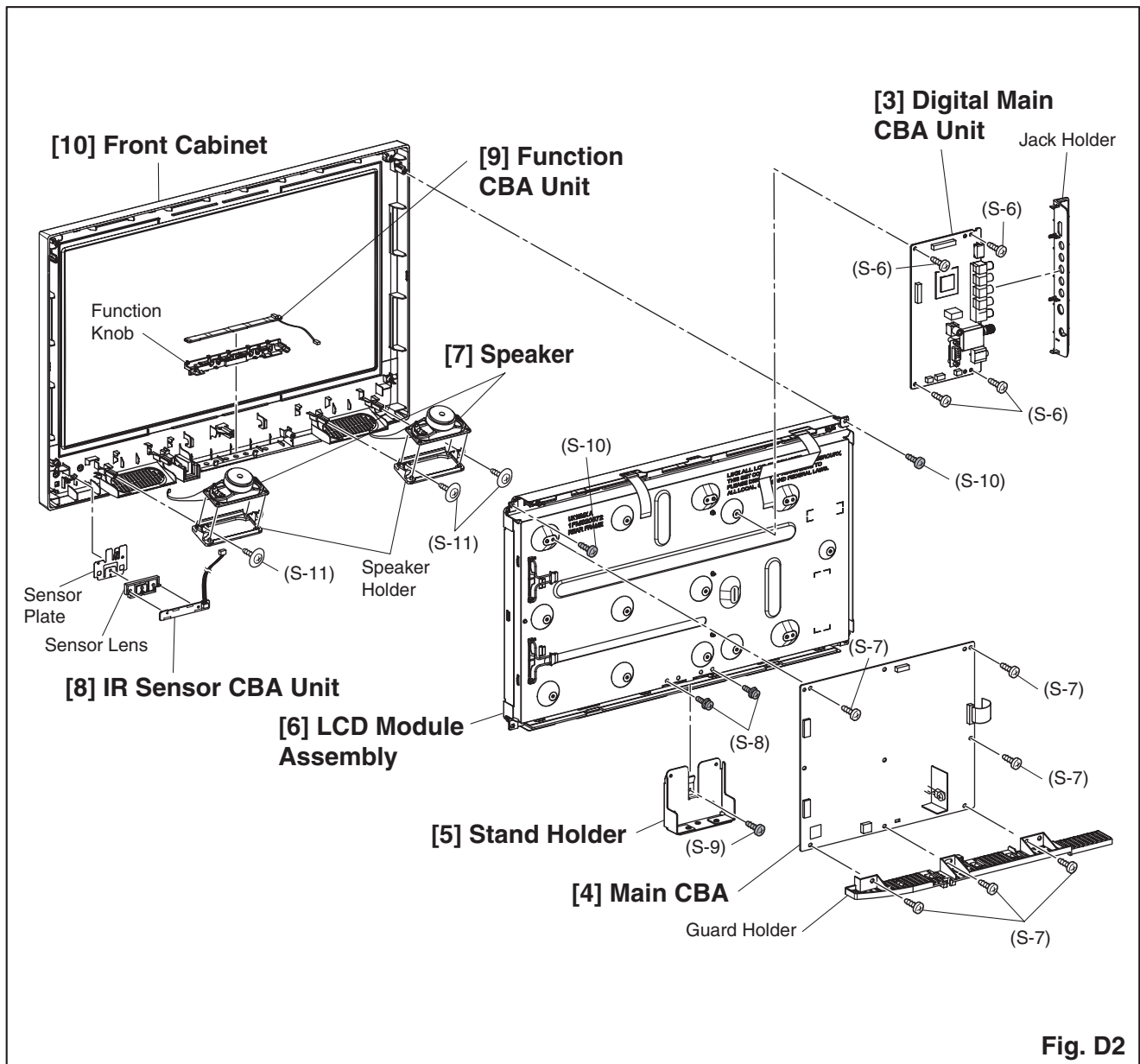
Be sure to place a conductive sheet or copper plate with proper grounding ( $1\text{ M}\Omega$ ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





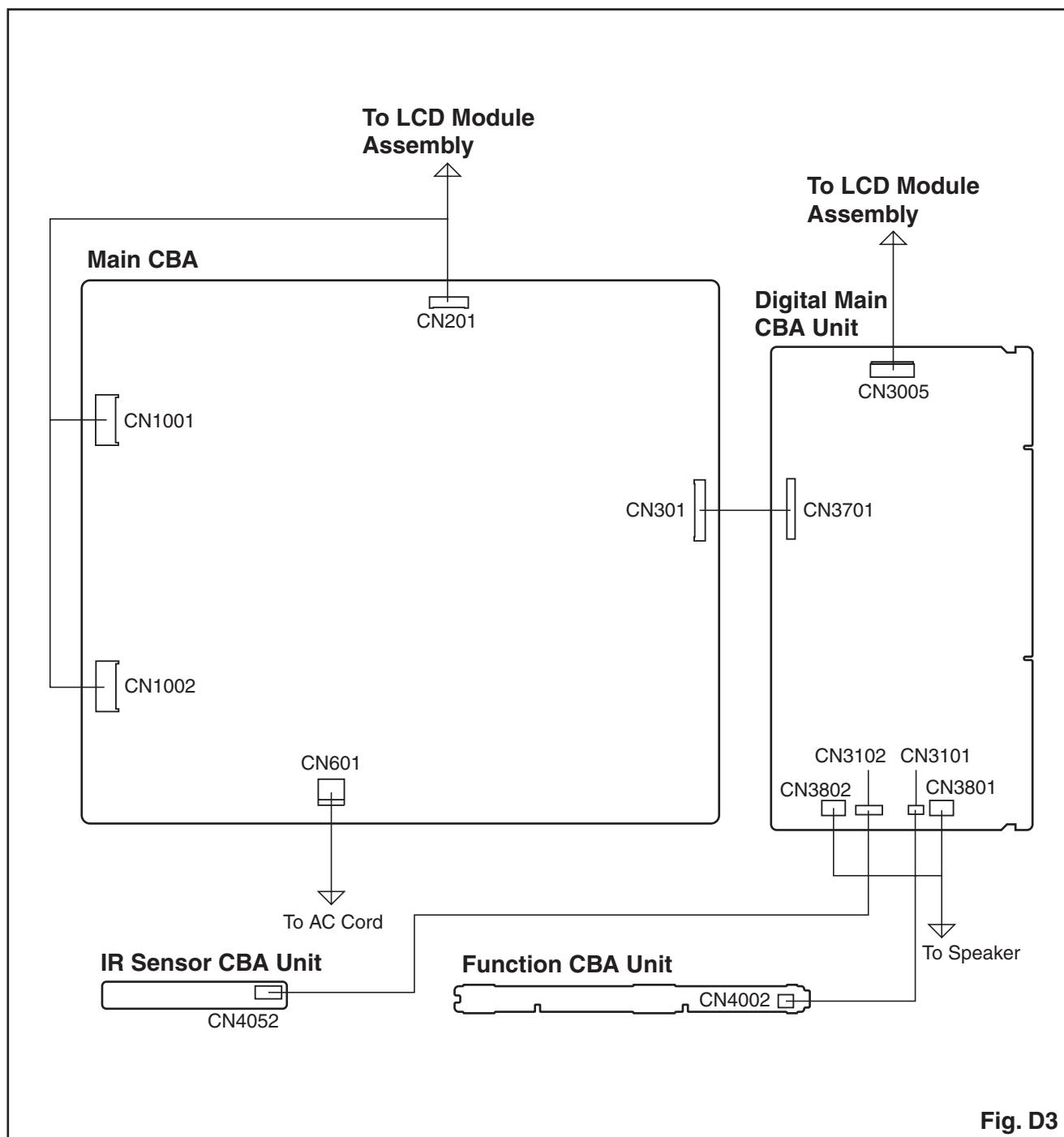


**Fig. D1**



**Fig. D2**

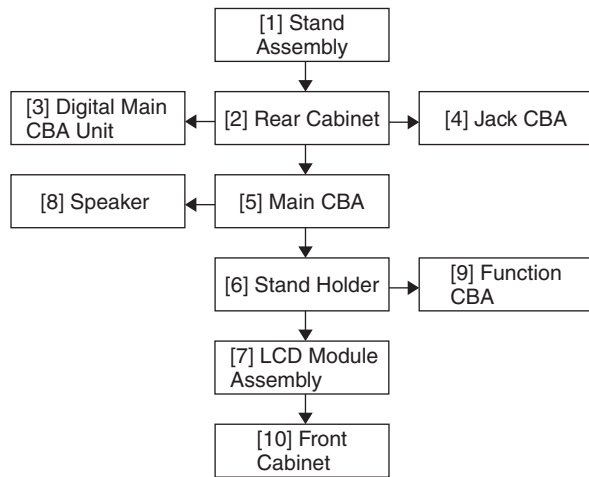
## TV Cable Wiring Diagram



## [TYPE B]

### 1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts and the CBA in order to gain access to items to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



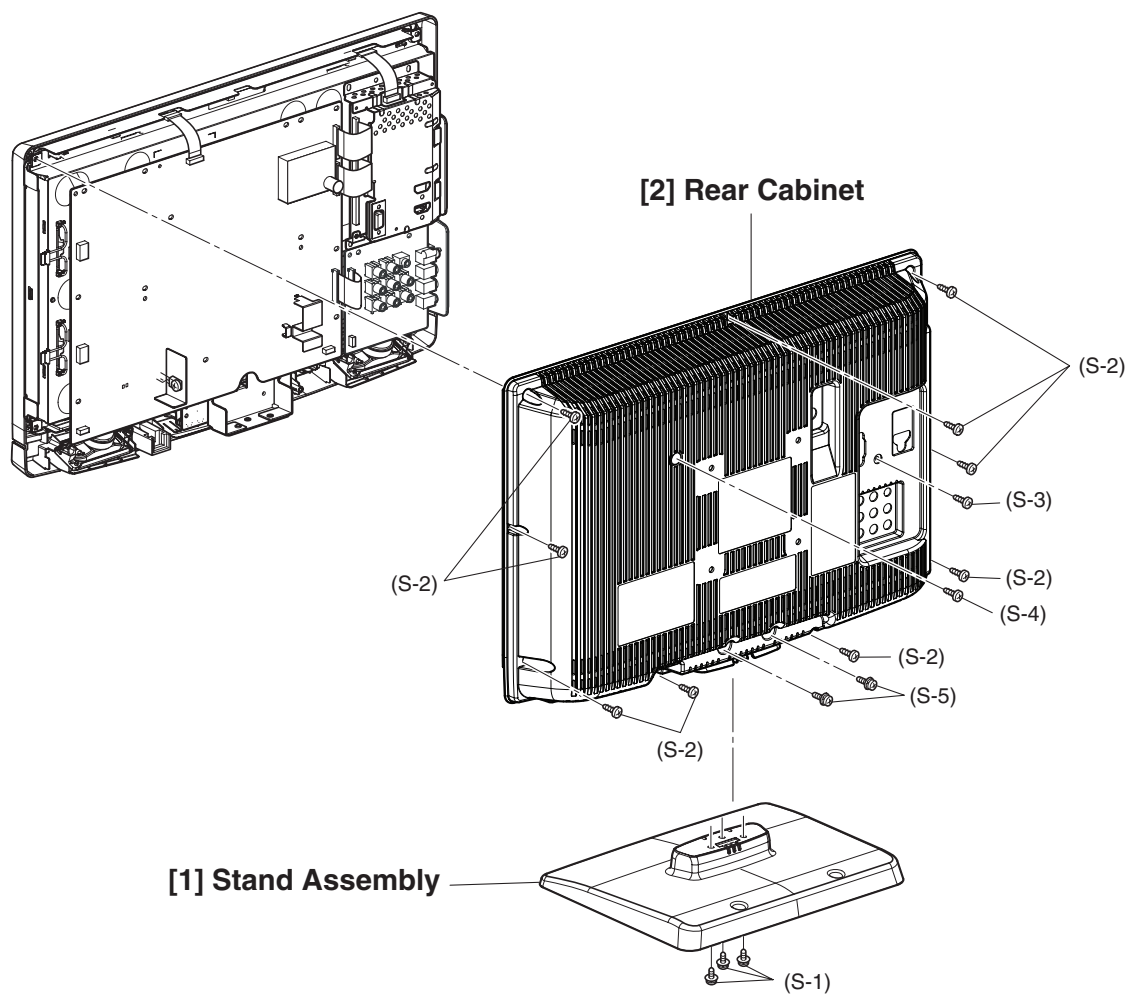
### 2. Disassembly Method

Step/ Loc. No.	Part	Fig. No.	Removal	Note
[1]	Stand Assembly	D1	3(S-1)	---
[2]	Rear Cabinet	D1	9(S-2), (S-3), (S-4), 2(S-5)	---
[3]	Digital Main CBA Unit	D2 D3	4(S-6), 2(S-7), 4(S-8), 2(H-1), CN301, CN302, CN3005, Shield Box, Jack Holder(D)	---
[4]	Jack CBA	D2 D3	4(S-9), (S-10), CN702, CN871, Jack Holder(A)	---
[5]	Main CBA	D2 D3	10(S-11), CN102, CN201, CN872, CN1001, CN1002	---
[6]	Stand Holder	D2	2(S-12), (S-13)	---
[7]	LCD Module Assembly	D2	-----	---
[8]	Speaker	D2	4(S-14), Speaker Holder	---

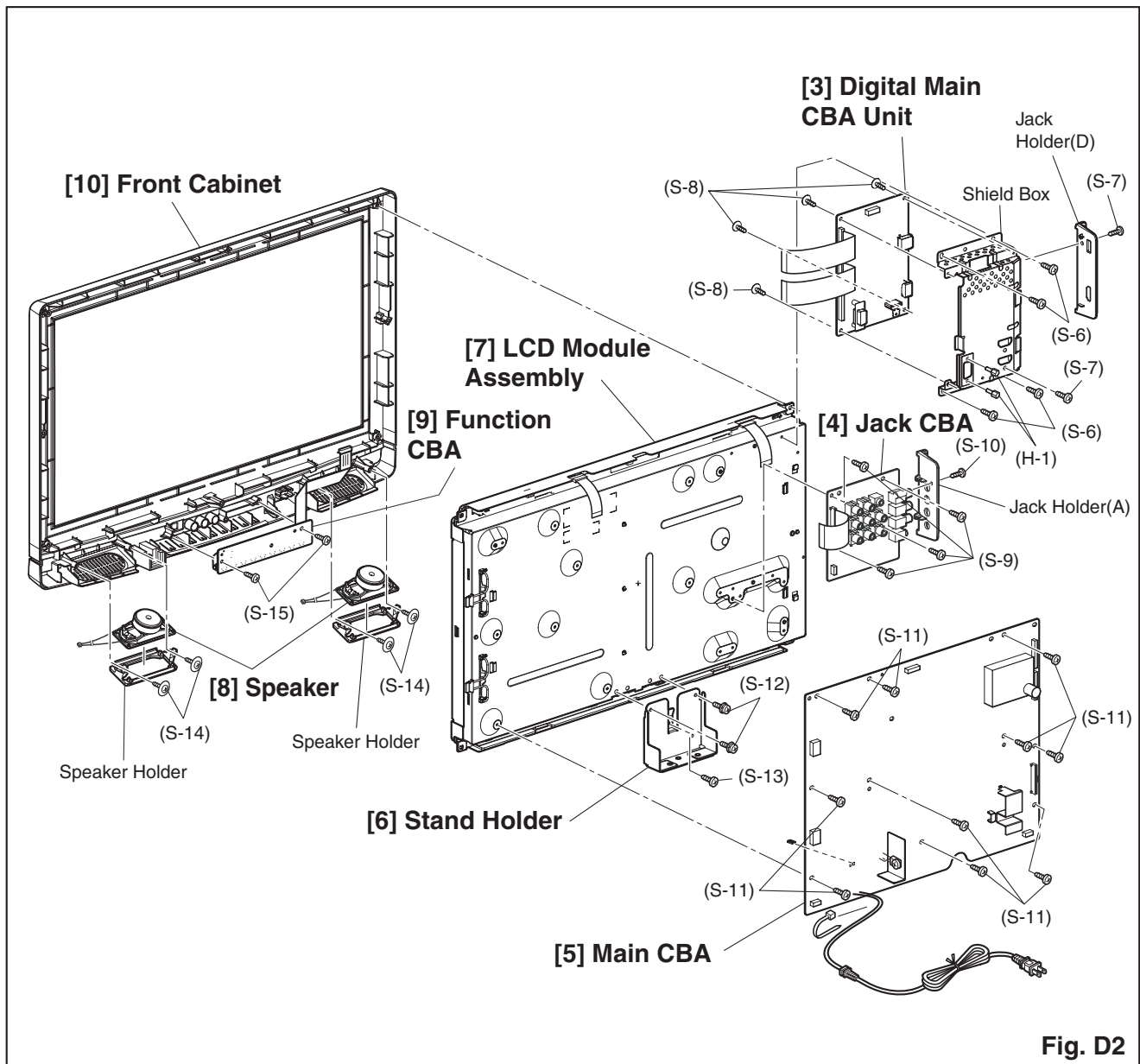
Step/ Loc. No.	Part	Fig. No.	Removal	Note
[9]	Function CBA	D2 D3	2(S-15)	---
[10]	Front Cabinet	D2	-----	---
			(1) (2) (3) (4) (5)	

#### Note:

- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
P = Spring, L = Locking Tab, S = Screw,  
H = Hex Screw, CN = Connector  
e.g. 2(S-2) = two Screws of (S-2),  
2(L-2) = two Locking Tabs of (L-2)
- (5) Refer to the following "Reference Notes in the Table."



**Fig. D1**



**Fig. D2**



# TV Cable Wiring Diagram

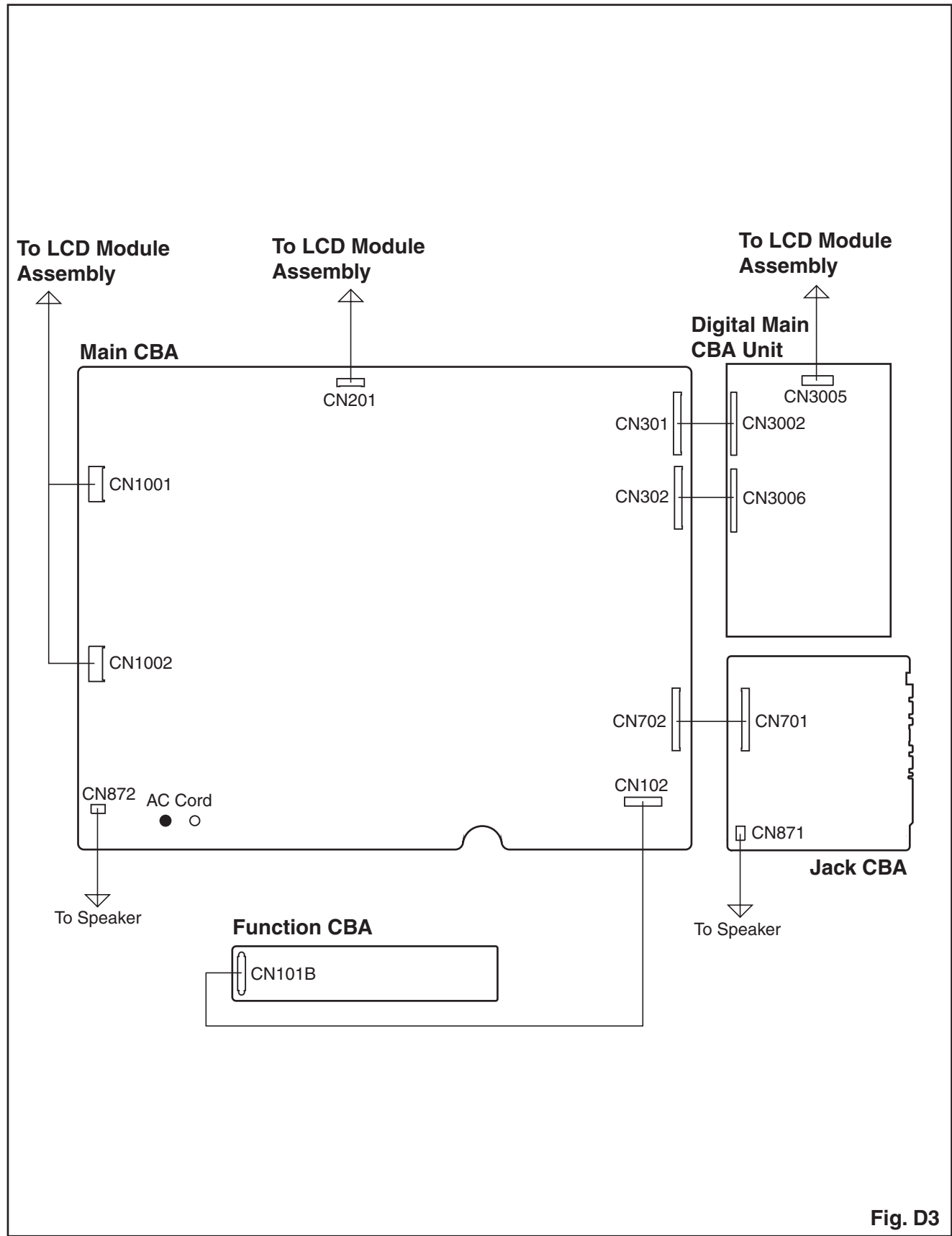
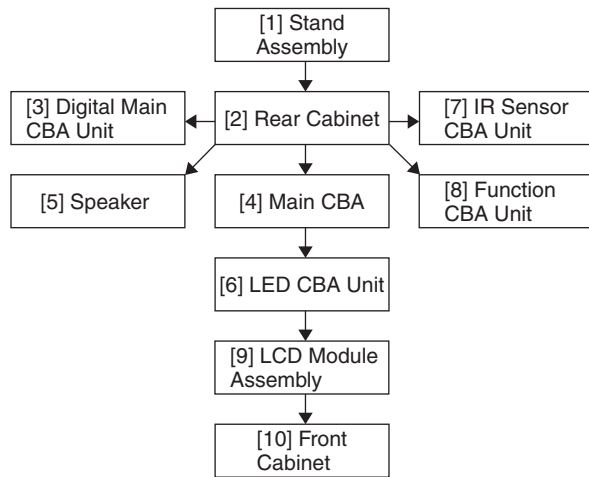


Fig. D3

## [TYPE C]

### 1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts and the CBA in order to gain access to items to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



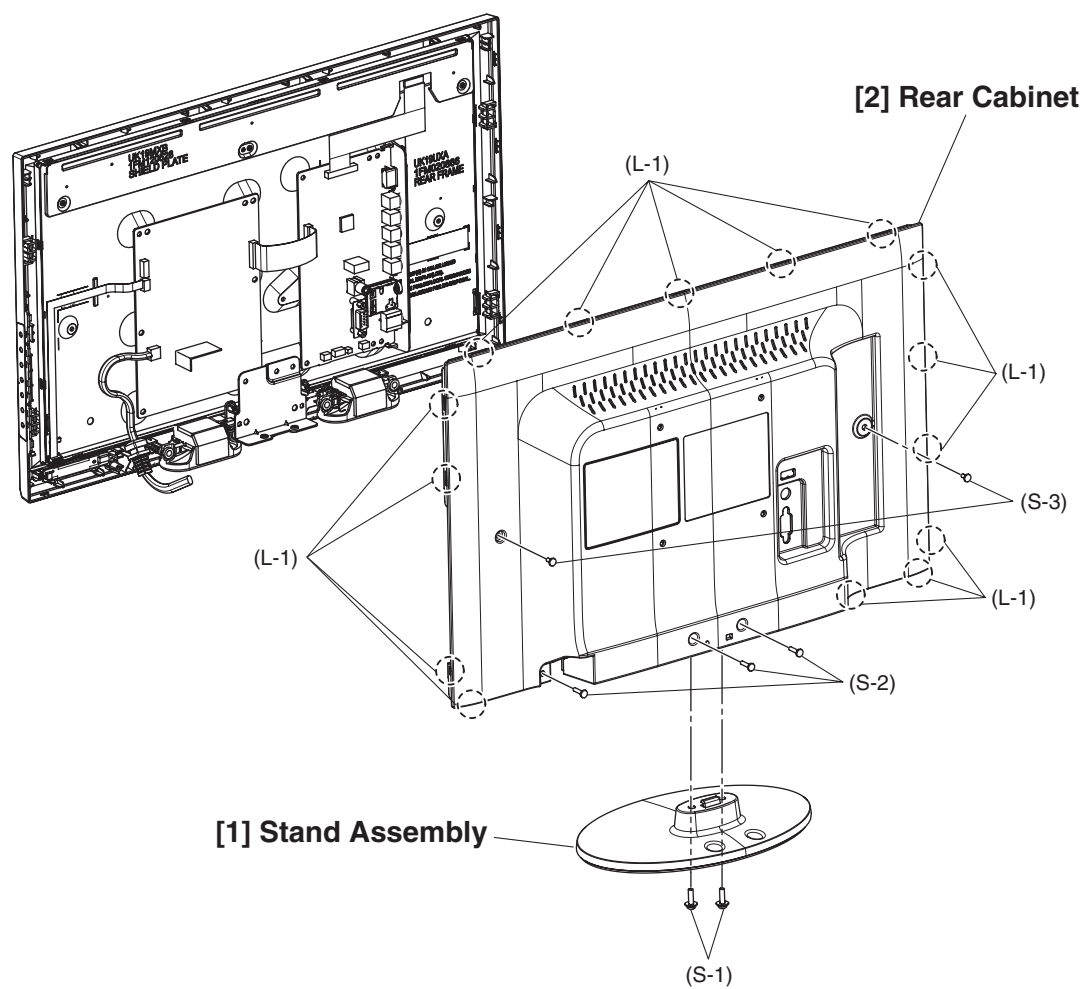
### 2. Disassembly Method

Step/ Loc. No.	Part	Fig. No.	Removal	Note
[1]	Stand Assembly	D1	2(S-1)	---
[2]	Rear Cabinet	D1	3(S-2), 2(S-3), 15(L-1)	---
[3]	Digital Main CBA Unit	D2 D3	4(S-4), CN3006, CN3102, CN3103, CN3701, CN3801, CN3802, Jack Holder	---
[4]	Main CBA	D2 D3	7(S-5), CN603, CN1001, Stand Bracket	---
[5]	Speaker	D2	-----	---
[6]	LED CBA Unit	D2 D3	LED Lens	---
[7]	IR Sensor CBA Unit	D2 D3	CN4051, Sensor Lens	---
[8]	Function CBA Unit	D2 D3	-----	---
[9]	LCD Module Assembly	D2	-----	---

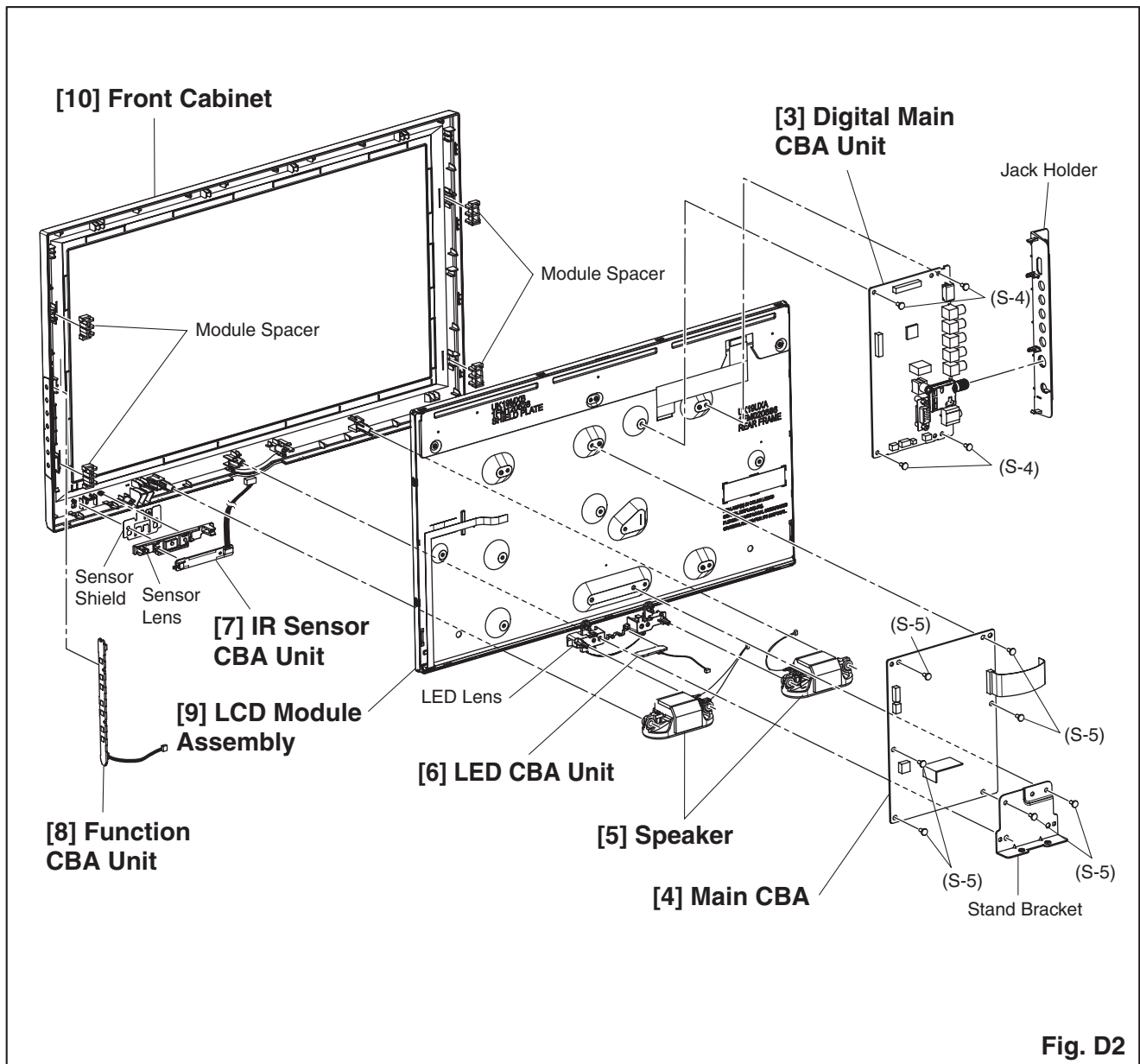
Step/ Loc. No.	Part	Fig. No.	Removal	Note
[10]	Front Cabinet	D2	Module Spacer, Sensor Shield	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

#### Note:

- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
P = Spring, L = Locking Tab, S = Screw,  
H = Hex Screw, CN = Connector  
e.g. 2(S-2) = two Screws of (S-2),  
2(L-2) = two Locking Tabs of (L-2)
- (5) Refer to the following "Reference Notes in the Table."

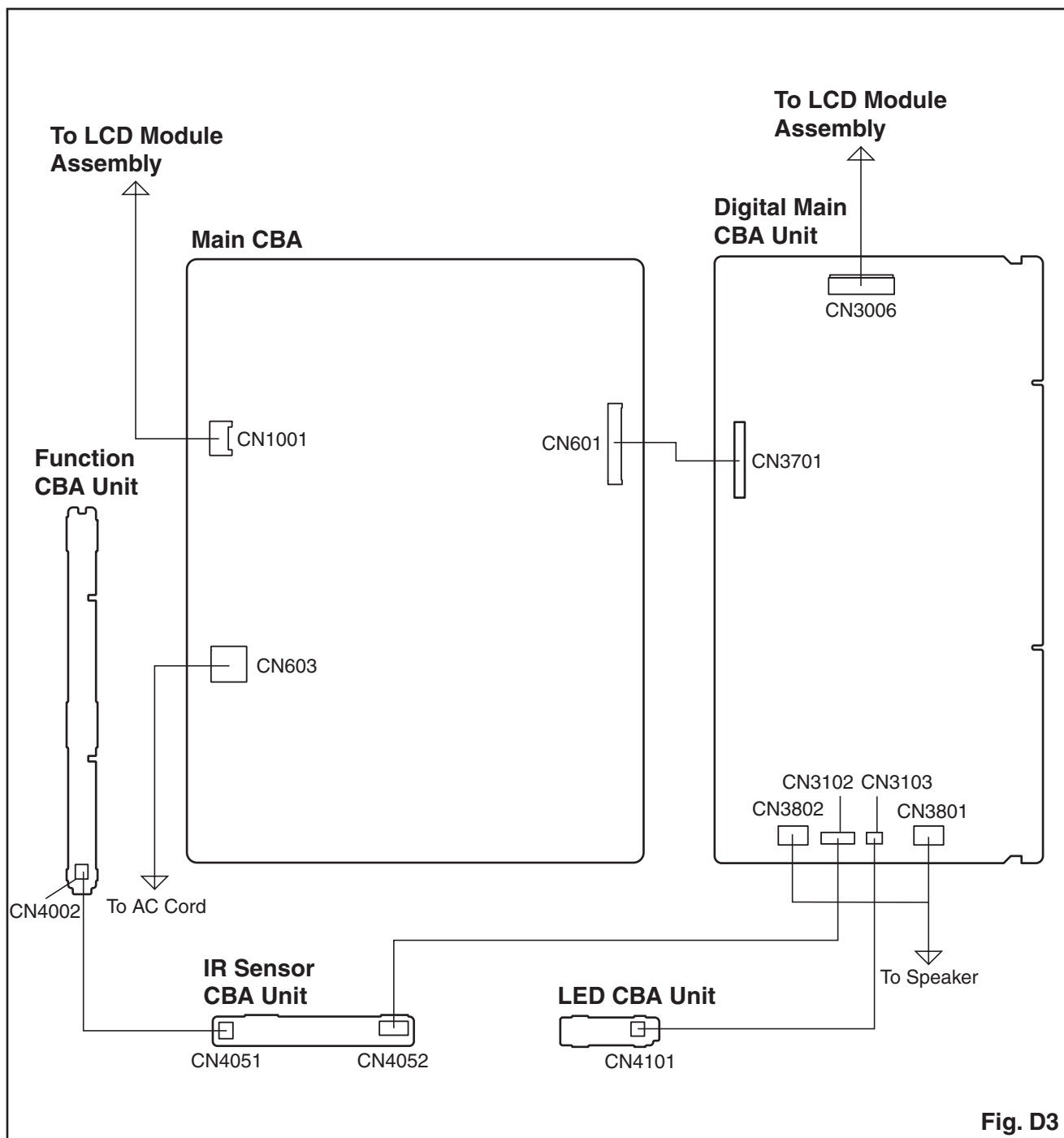


**Fig. D1**



**Fig. D2**

## TV Cable Wiring Diagram



# ELECTRICAL ADJUSTMENT INSTRUCTIONS

**General Note:** “CBA” is abbreviation for “Circuit Board Assembly.”

**Note:** Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

## Test Equipment Required

1. Remote control unit
2. Color Analyzer, CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310.

## How to set up the service mode:

### Service mode:

1. Turn the power on.
2. Press [MENU] button to display Setup menu.
3. Select “Features”.
4. Select “Current Software Info”.
5. Press [0], [4], [2], [5], [7], [4] and [INFO] buttons on the remote control unit in this order. The following screen appears.

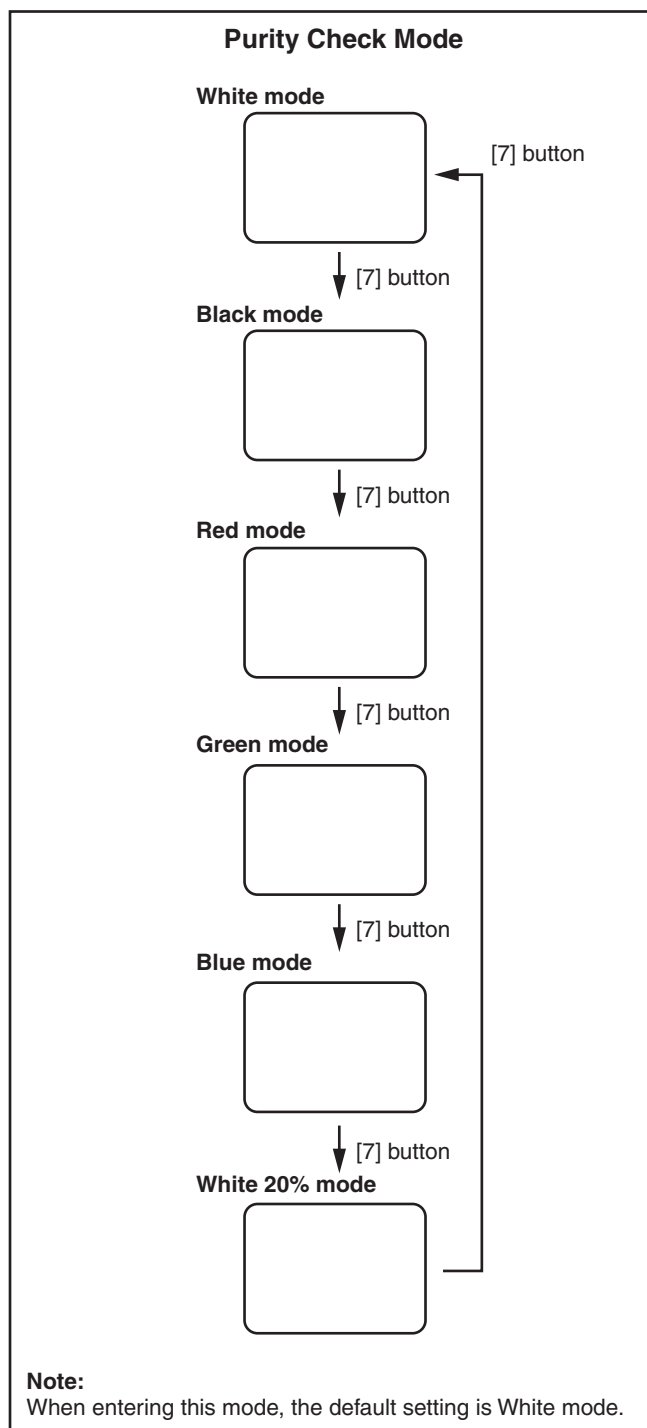
“\*” differs depending on the models.

Code:	*****_**_*_*_*_*_*_*_*_*
Pic code:	*****_*_*_*_*_*_*_*_*
Panel-Option code:	**_*_*_*_*_*_*_*_*_*_*_*_*
MIPS:	Push 0 key
Press "POWER" key to exit.	
Tuner:	****_*_*_*_*_*_*_*_*
Safety:	Safety_Non
HDMI EDID:	**
PC EDID:	**
Total Watch Time:	*****
Lightsensor:	****

## 1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

1. Enter the Service mode.
2. Each time the [7] button on the remote control unit is pressed, the display changes as follows.

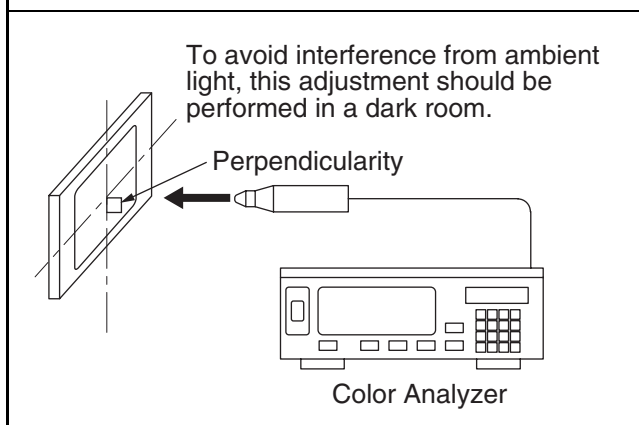


3. To cancel or to exit from the Purity Check Mode, press [CH RETURN] or [PREV CH] button.

## 2. VCOM Adjustment

Test Point	Adj. Point
Screen	[CHANNEL UP/DOWN] buttons
M. EQ.	Spec.
Color analyzer	See below

**Figure**



1. Operate the unit for more than 60 minutes.
2. Set the color analyzer at the zero point calibration and bring the optical receptor pointing at the center of the LCD-Panel.  
**Note:** The optical receptor must be set perpendicularly to the LCD Panel surface.
3. Enter the Service mode.
4. Press [3] button on the remote control unit.
5. Press [CHANNEL UP/DOWN] buttons on the remote control unit so that the color analyzer value becomes minimum.
6. To cancel or to exit from the VCOM Adjustment, press [CH RETURN] or [PREV CH] button.

**The White Balance Adjustment should be performed when replacing the LCD Panel or Digital Main CBA.**

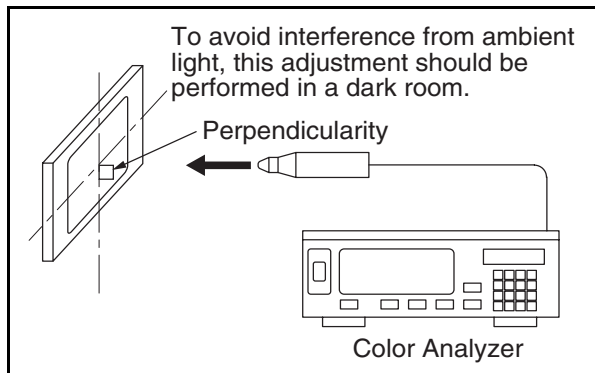
### 3. White Balance Adjustment

**Purpose:** To mix red and blue beams correctly for pure white.

**Symptom of Misadjustment:** White becomes bluish or reddish.

ITEM	SPECIFICATION
Color temperature	$x = 0.272 \pm 0.002$ $y = 0.278 \pm 0.002$
Input Signal	Internal pattern (40/70% raster)
Measurement point	Screen center
M. EQ.	CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310.
Aging time	60min. (Retail MODE/100IRE Raster HDMI 1080i @ 60)
MODE setting of TV	Shipment setting/ Retail MODE
Ambient temperature	$25^{\circ}\text{C} \pm 5^{\circ}\text{C}$

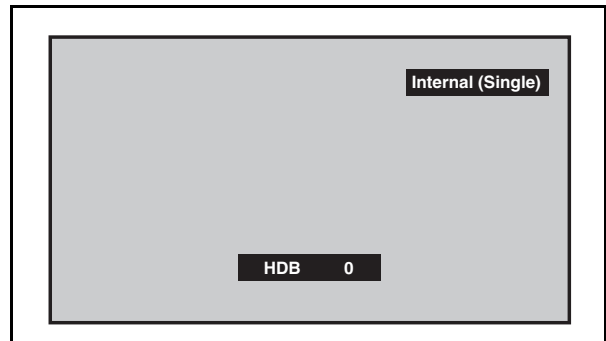
1. Operate the unit for more than 60 minutes.
2. Enter the Service mode.
3. Press [VOLUME DOWN] button three times on the remote control unit to select "Drive setting" mode. "Drive" appears on the screen.
4. Set the color analyzer at the CHROMA mode and zero point calibration. Bring the optical receptor pointing at the center of the LCD-Panel.



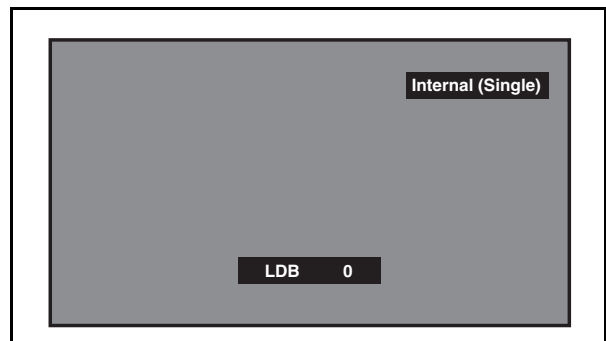
**Note:** The optical receptor must be set perpendicularly to the LCD Panel surface.

5. Press [3] button to select the "HDB" for High Drive Blue adjustment. ("HDB" appears on the screen.)

6. Press [MENU] button. The internal Raster signal appears on the screen. ("Internal (Single)" appears on the upper right of the screen as shown below.)



7. Press [CHANNEL UP/DOWN] buttons to adjust the color temperature becomes  $12000^{\circ}\text{K}$  ( $x = 0.272 / y = 0.278 \pm 0.002$ ).
8. Press [1] button to select the "HDR" for High Drive Red adjustment ("HDR" appears on the screen.) and press [CHANNEL UP/DOWN] buttons to adjust the color temperature.
9. If necessary, adjust the "HDB" or "HDR" again.
10. Press [6] button to select the "LDB" for Low Drive Blue adjustment ("LDB" appears on the screen.) and press [CHANNEL UP/DOWN] buttons to adjust the color temperature.



11. Press [4] button to select the "LDR" for Low Drive Red adjustment ("LDR" appears on the screen.) and press [CHANNEL UP/DOWN] buttons to adjust the color temperature.
12. If necessary, adjust the "LDB" or "LDR" again.
13. Press [VOLUME DOWN] button to shift to the "Debugging Message" mode.  
If there is no message under "[WB]" section, this adjustment completes.  
If "Drive settings are NG. Retry." is displayed, repeat above steps from 5. to 12. Then check "Debugging Message" again. If "Drive settings are NG. Retry." is displayed, replace the LCD Panel or Digital Main CBA.
14. To cancel or to exit from the White Balance Adjustment, press [CH RETURN] or [PREV CH] button.



# HOW TO INITIALIZE THE LCD TV

The purpose of initialization is to place the set in a new out of box condition. The customer will be prompted to select a language and program channels after the set has been initialized.

To put the program back at the factory-default, initialize the LCD TV using the following procedure.

1. Turn the power on.
2. Enter the service mode.
  - To cancel the service mode, press [POWER] button on the remote control unit.
3. Press [FREEZE] button on the remote control unit to initialize the LCD television.
4. "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is completed.

# FIRMWARE RENEWAL MODE

## Equipment Required

- USB storage device
- Remote Control Unit

## Firmware Update Procedure

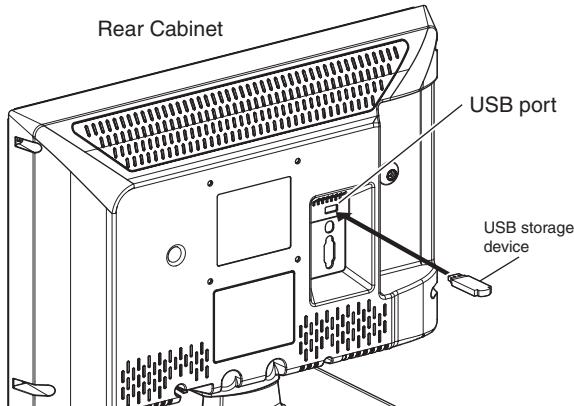
**Note:** There are two states (the User Upgrade and the Factory Upgrade) in firmware update.

User Upgrade	Upgrade the firmware only. The setting values are not initialized.
Factory Upgrade (Firmware upgrade)	Upgrade the firmware and initialize the setting values.
Factory Upgrade (Flash upgrade)	Upgrade the firmware and initialize the setting values along with the setting data adjusted at the factory such as White Balance, etc.

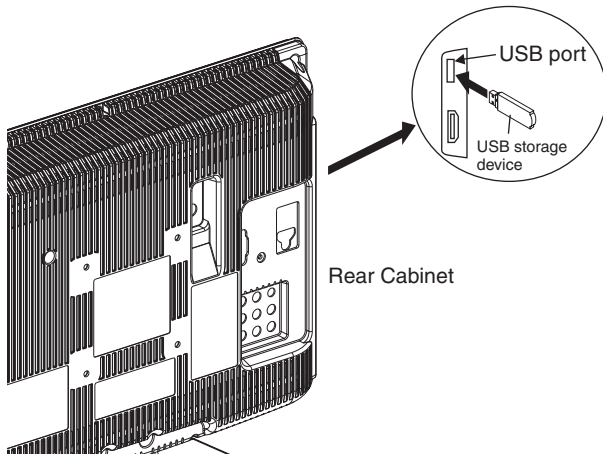
The identification of User Upgrade and Factory Upgrade are done by the filename.

- Turn the power off and unplug the AC Cord.
- Insert the USB storage device to the USB port as shown below.

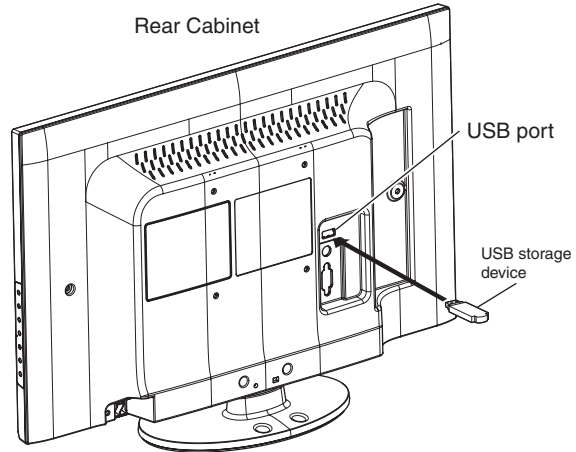
### TYPE A (Example: 19MF301B/F7)



### TYPE B (Example: LC190SS2)

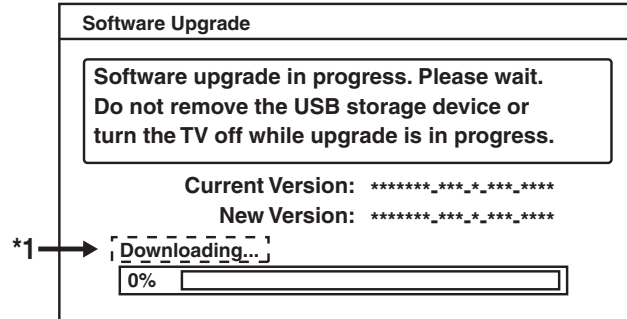


### TYPE C (Example: 19ME601B/F7)



- Plug the AC cord in the wall outlet and turn the power on.
- The update will start and the following will appear on the screen.

"\*" differs depending on the models.

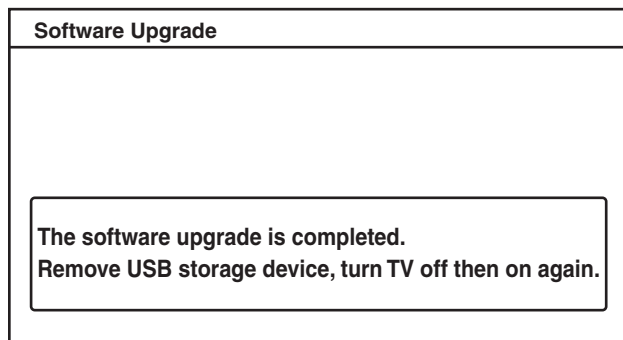


**Note:** If the above screen isn't displayed, repeat from step 1.

The appearance shown in \*1 is described as follows.

Appearance	State
Downloading...	Downloading the firmware from the USB storage device.
Writing...	Writing the downloaded firmware in flash memory.
Checking...	Checking the new firmware.

5. When the firmware update is completed, the following will appear on the screen.



Remove the USB storage device from the USB port.

Turn the power off and turn the power on again.

**Note:**

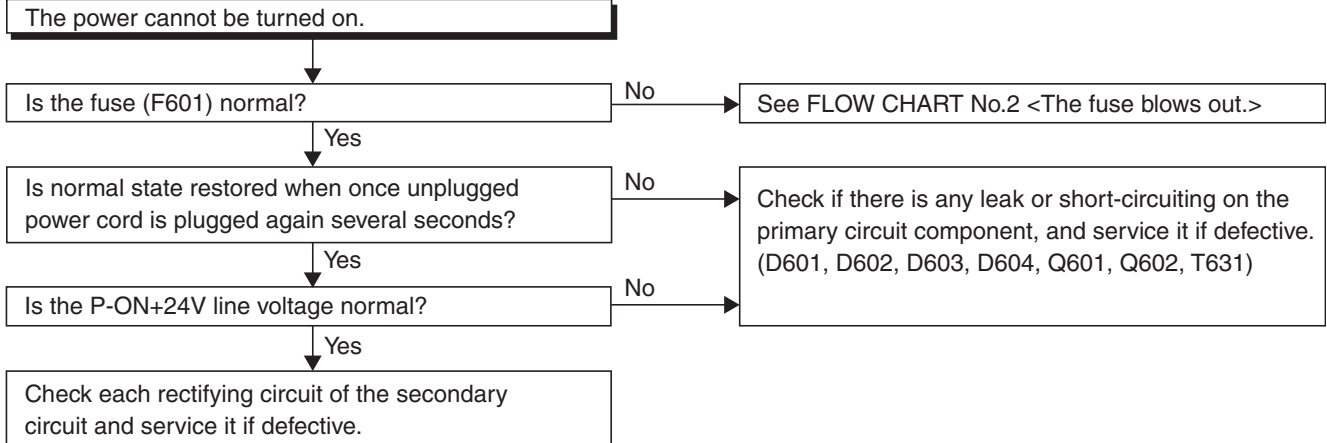
When the Factory Upgrade is used, after restarting TV, shift to initial screen menu in service mode. "INITIALIZED" will appear on the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is completed.

# TROUBLESHOOTING

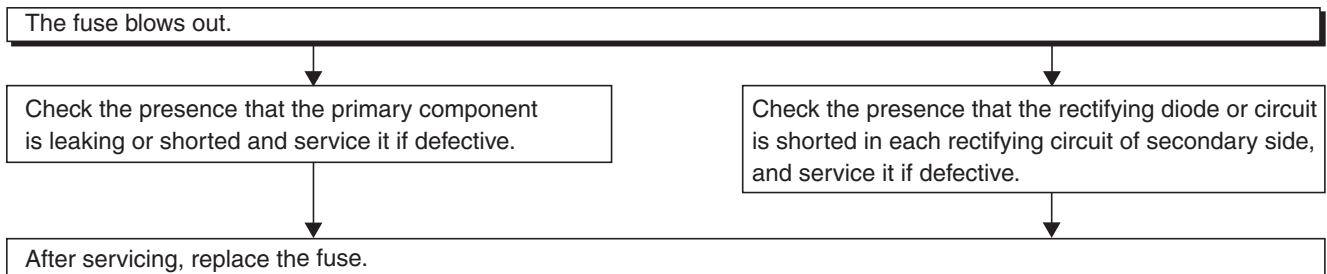
## [TYPE A]

### [Power Supply Section]

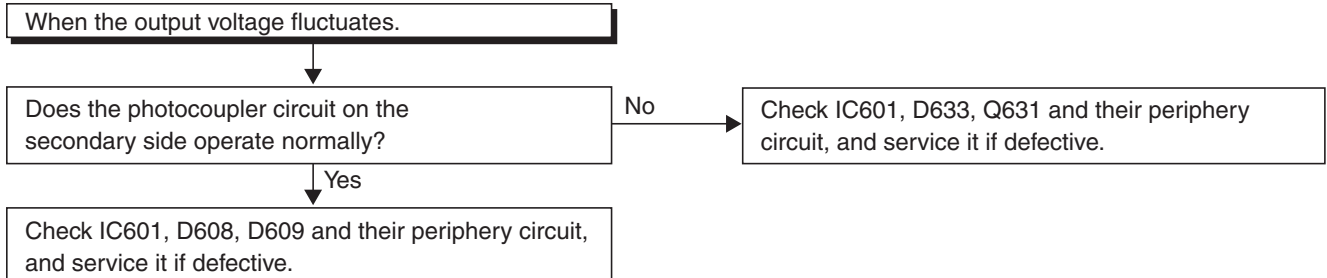
#### FLOW CHART NO.1



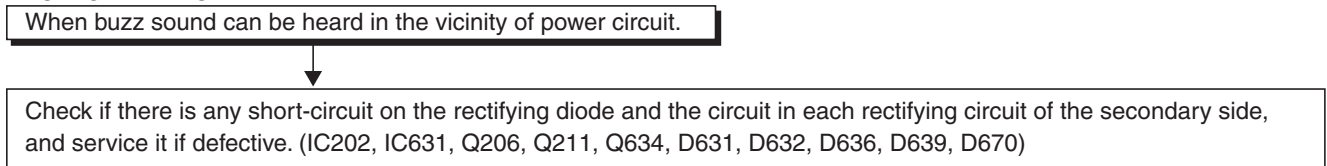
#### FLOW CHART NO.2



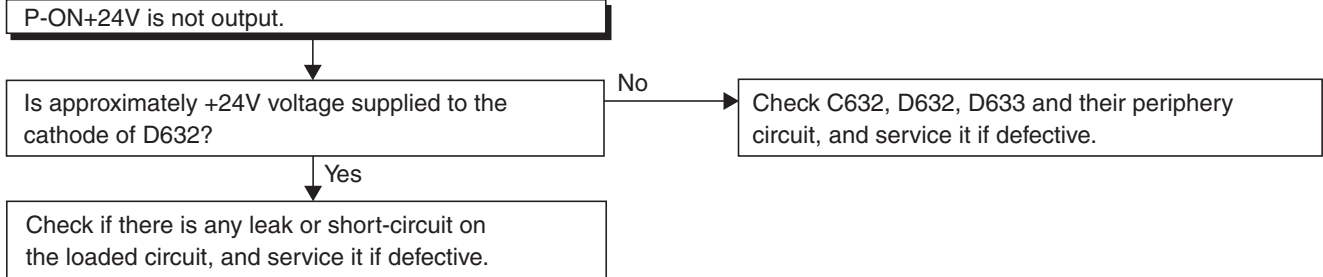
#### FLOW CHART NO.3



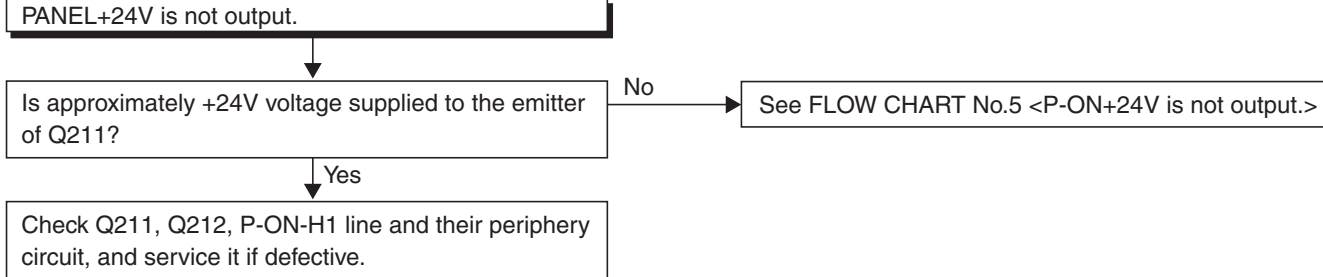
#### FLOW CHART NO.4



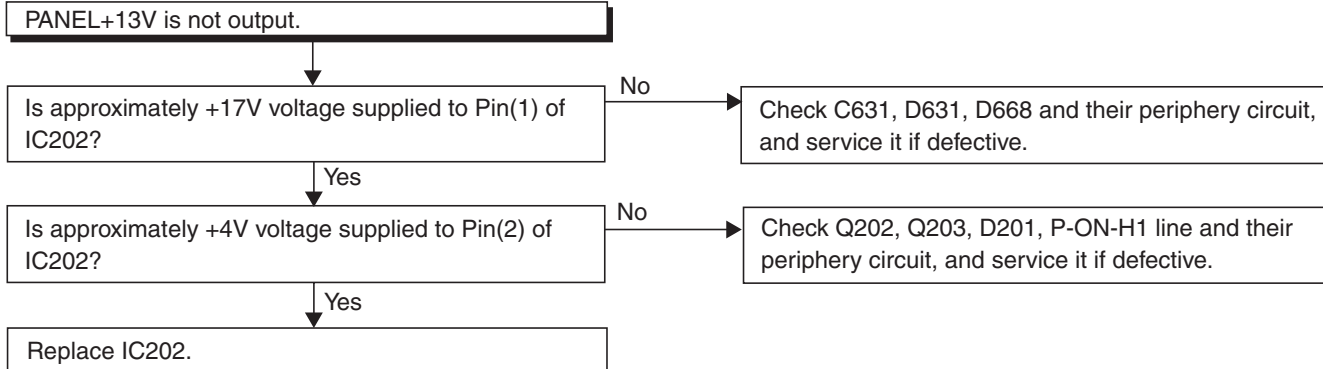
#### FLOW CHART NO.5



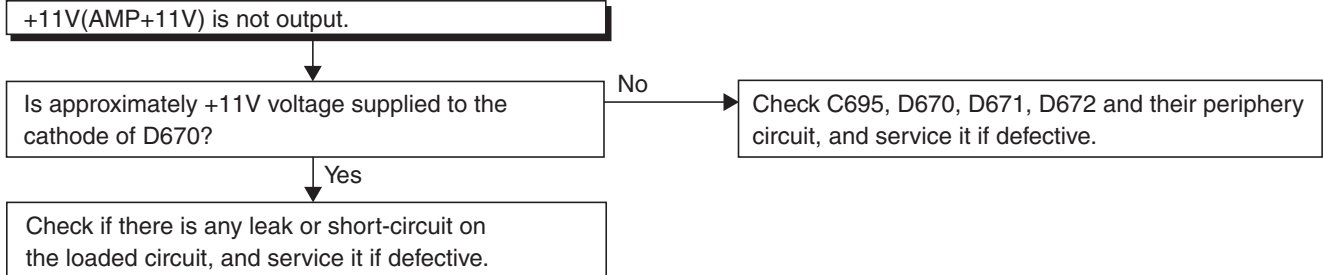
#### FLOW CHART NO.6



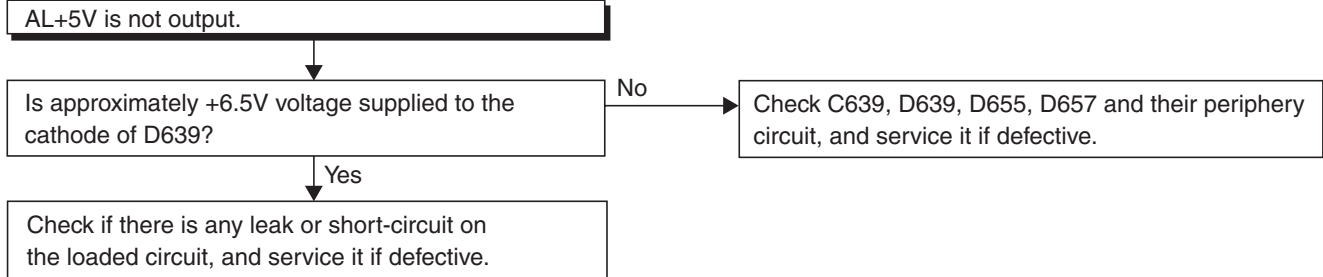
#### FLOW CHART NO.7



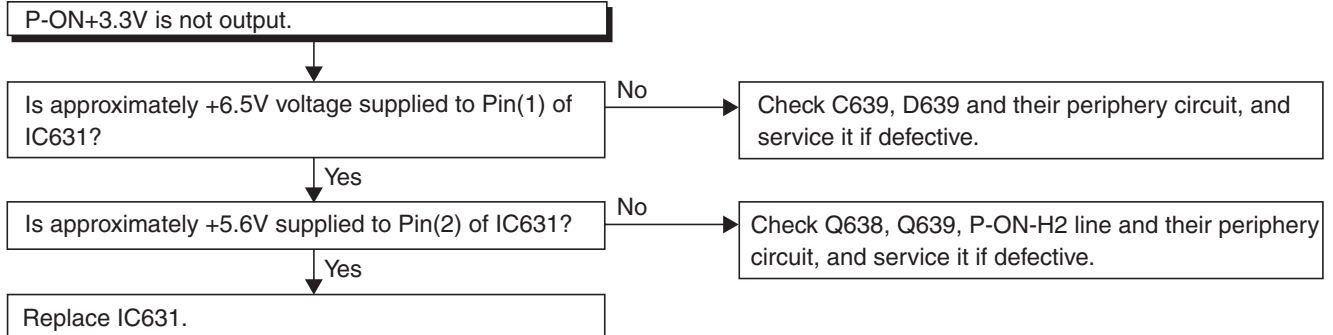
#### FLOW CHART NO.8



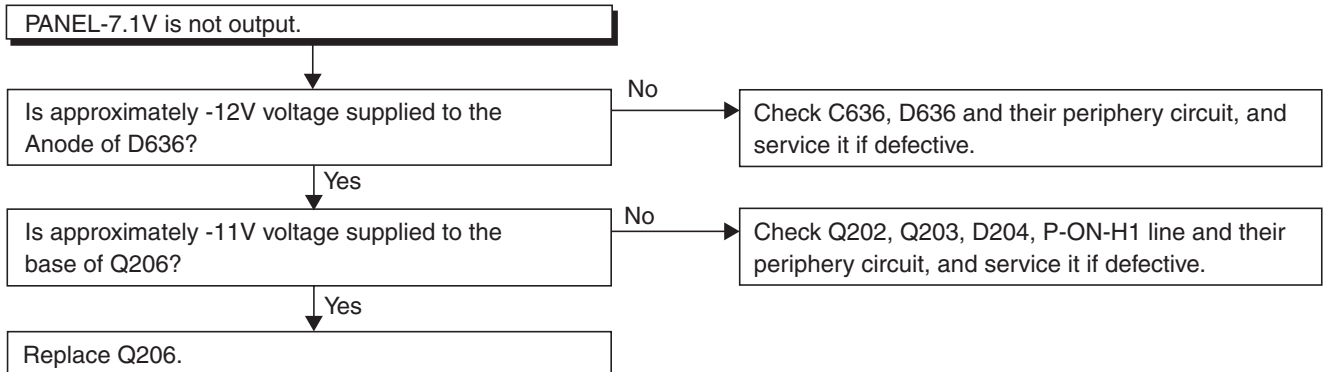
#### FLOW CHART NO.9



#### FLOW CHART NO.10

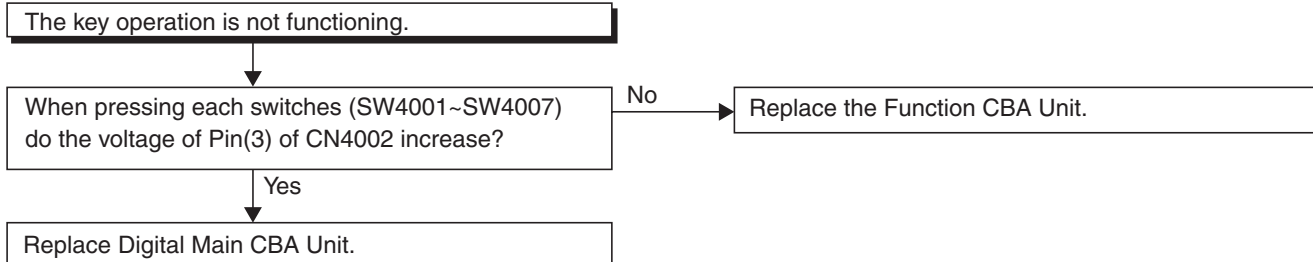


#### FLOW CHART NO.11

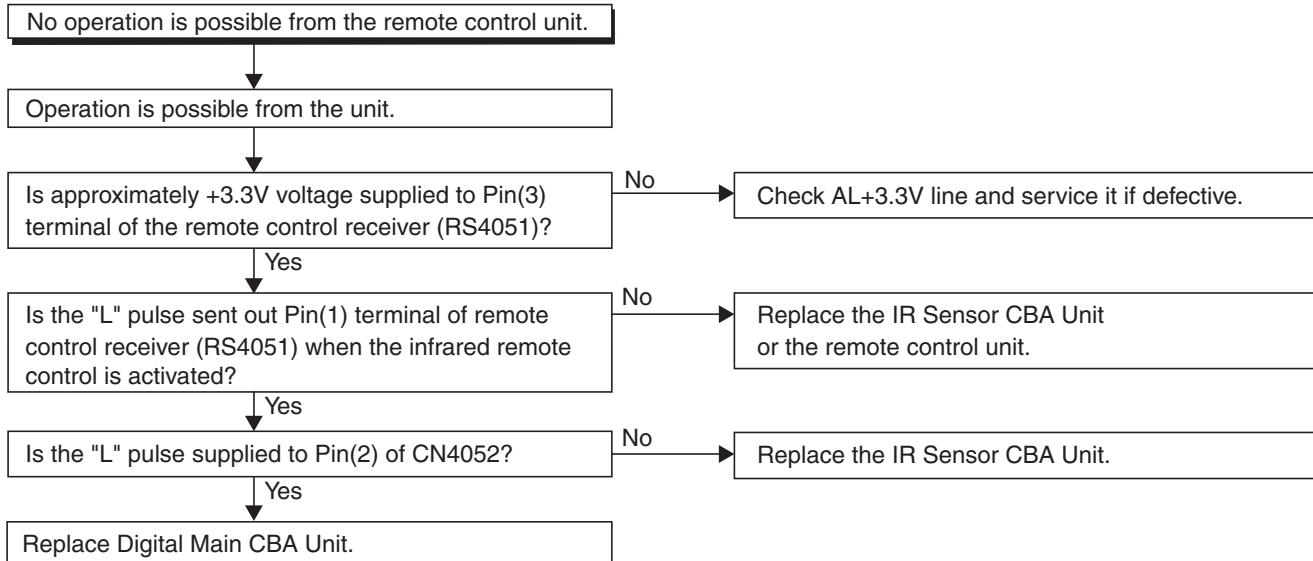


## [Video Signal Section]

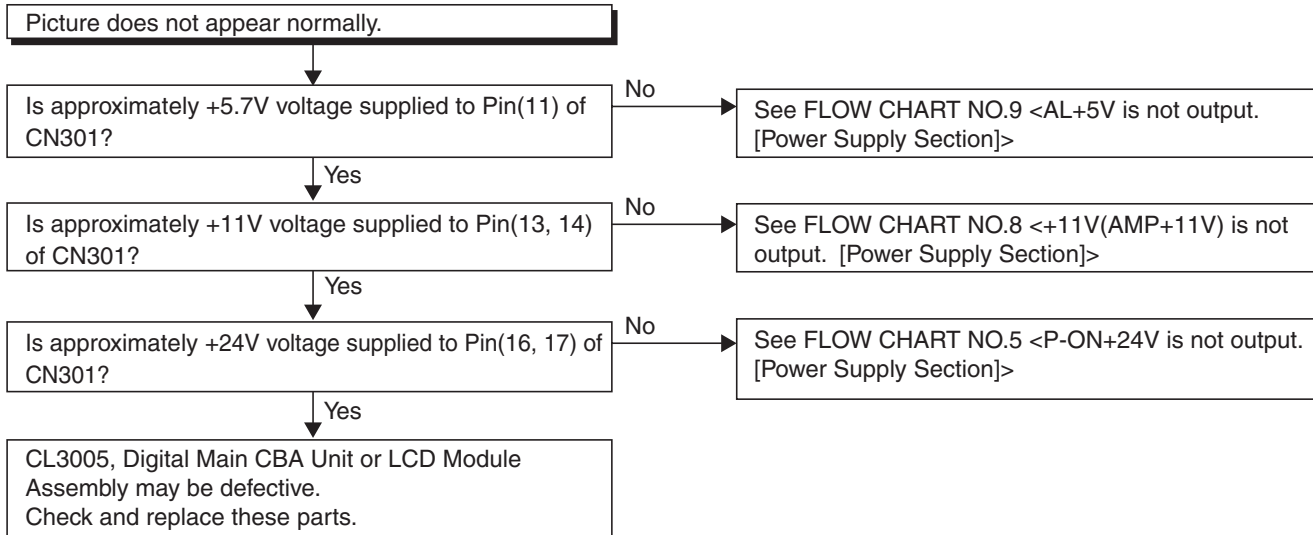
### FLOW CHART NO.1



### FLOW CHART NO.2

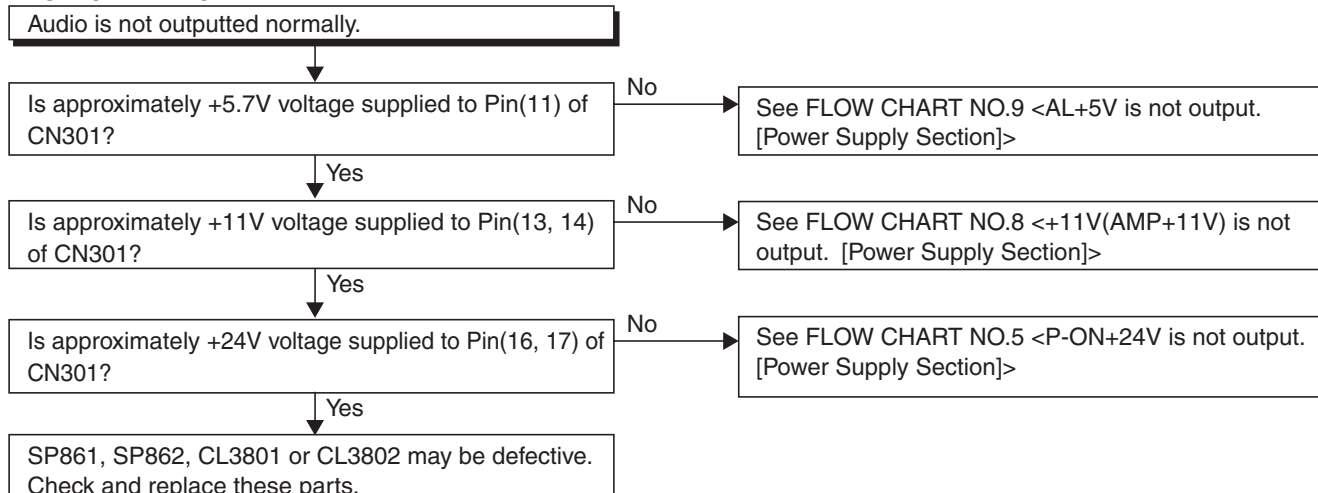


### FLOW CHART NO.3



## [Audio Signal Section]

### FLOW CHART NO.1

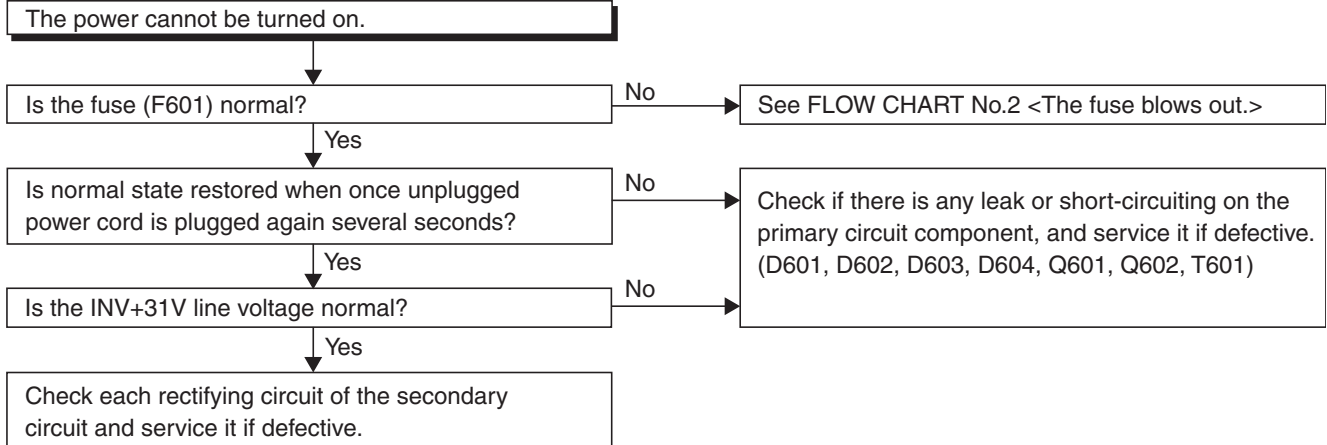




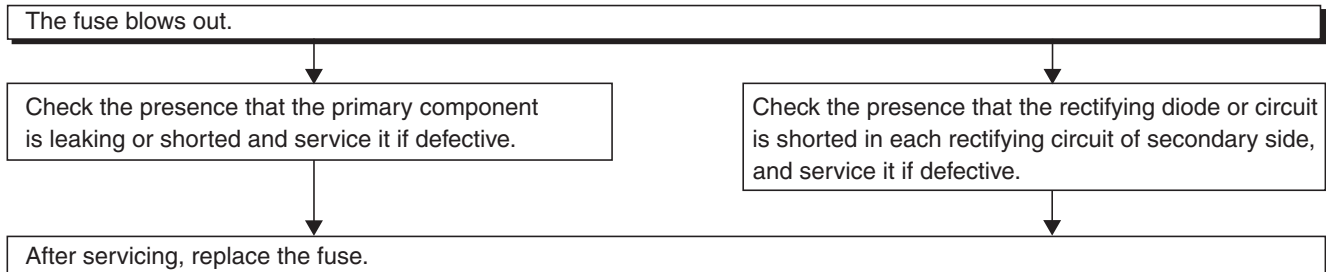
## [TYPE B]

### [Power Supply Section]

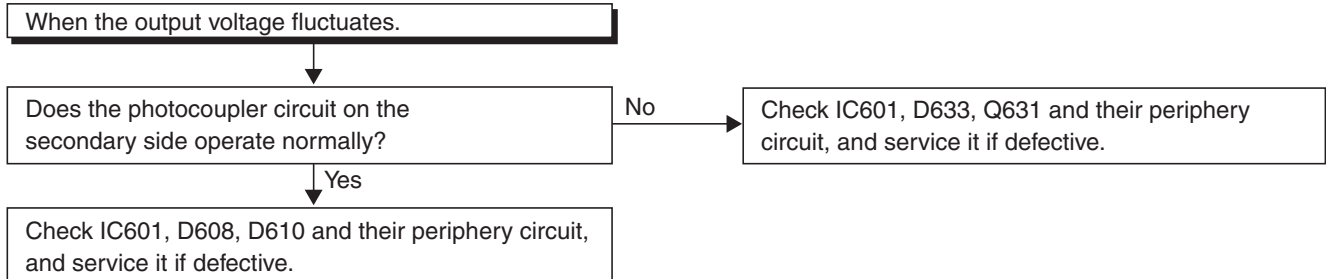
#### FLOW CHART NO.1



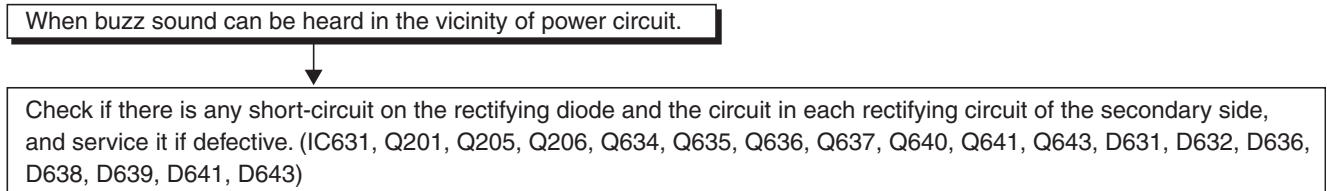
#### FLOW CHART NO.2



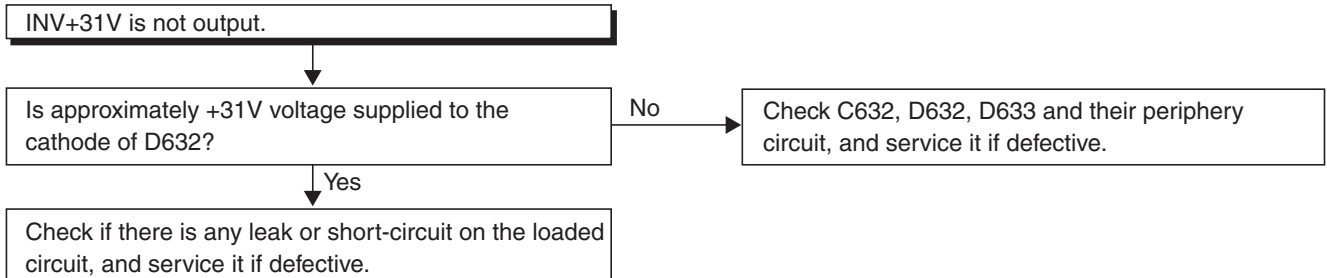
#### FLOW CHART NO.3



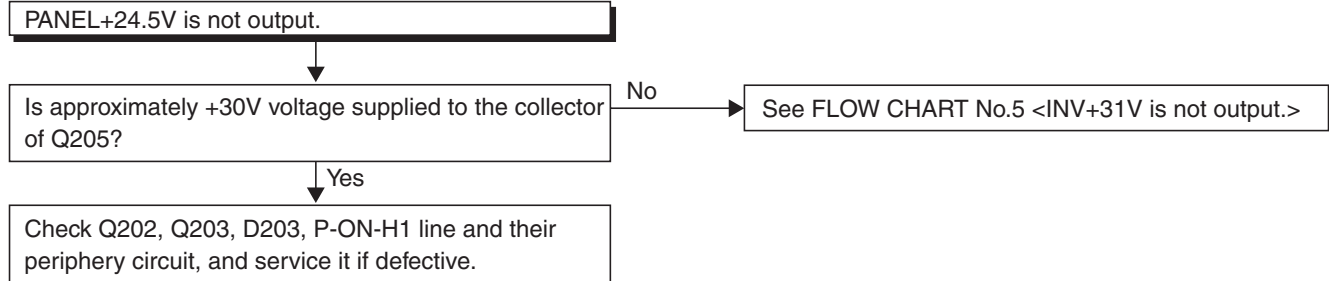
#### FLOW CHART NO.4



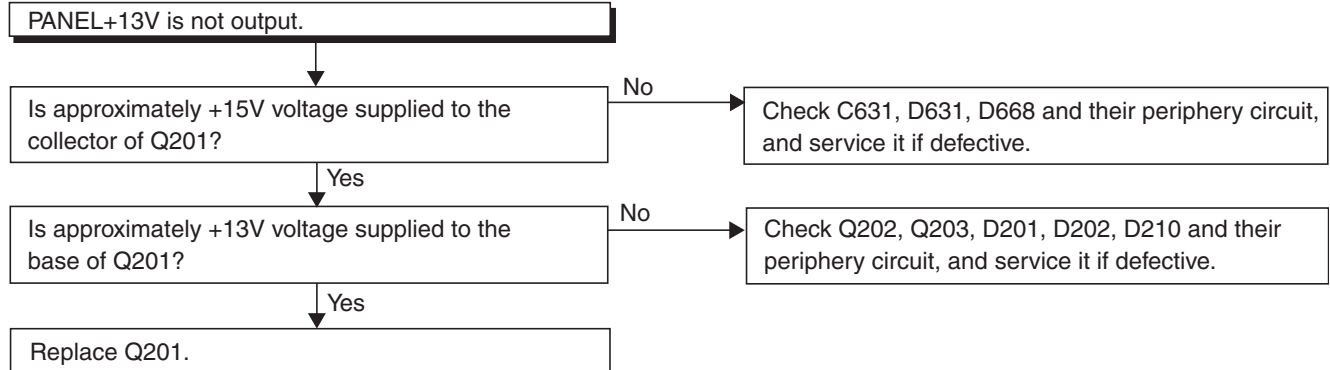
#### FLOW CHART NO.5



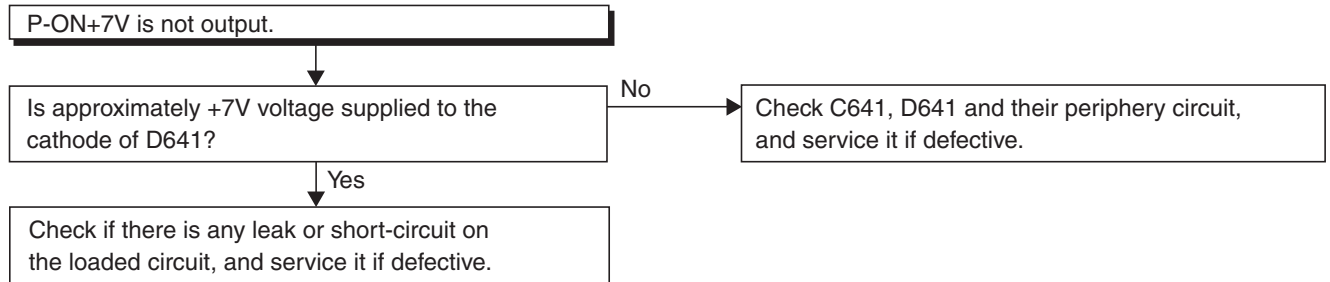
#### FLOW CHART NO.6



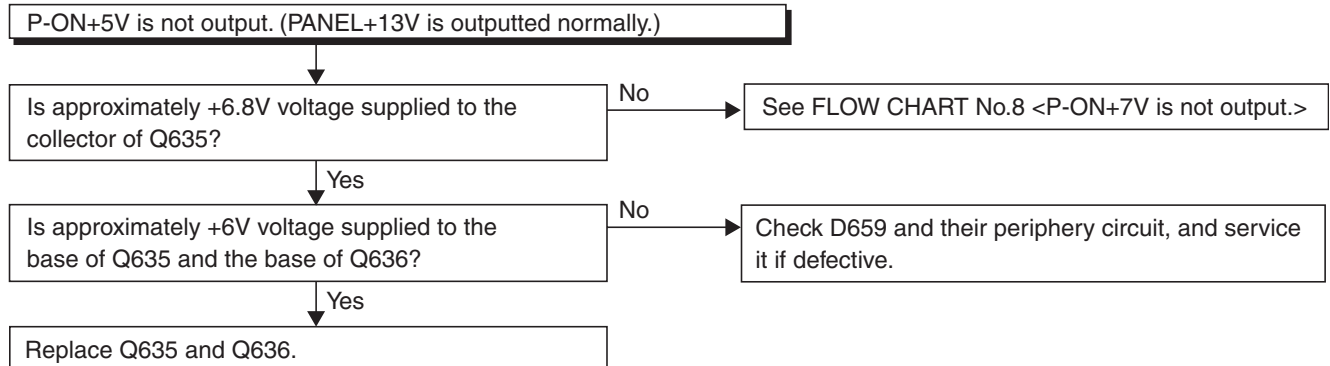
#### FLOW CHART NO.7



#### FLOW CHART NO.8

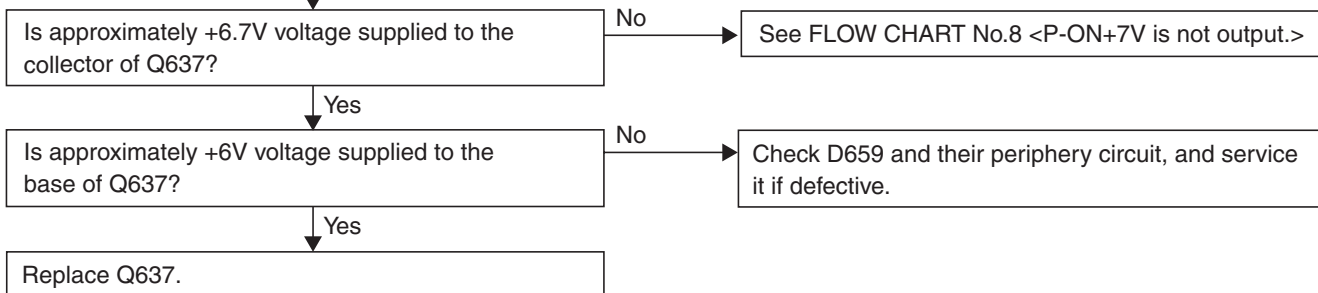


#### FLOW CHART NO.9



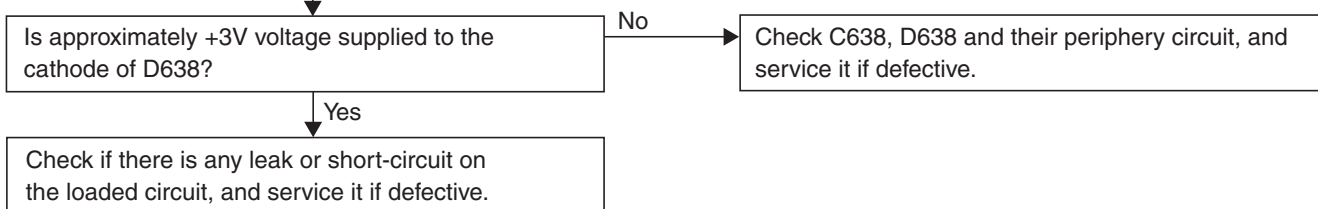
#### FLOW CHART NO.10

TUNER+5V is not output. (PANEL+13V is outputted normally.)



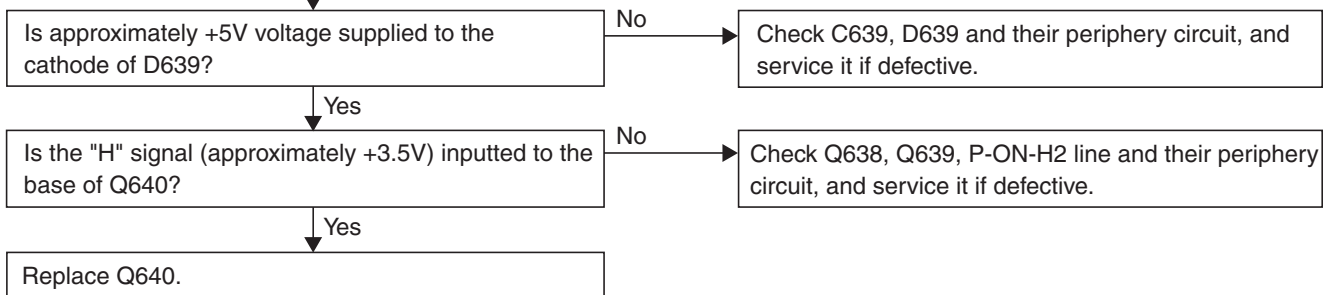
#### FLOW CHART NO.11

P-ON+3V is not output.



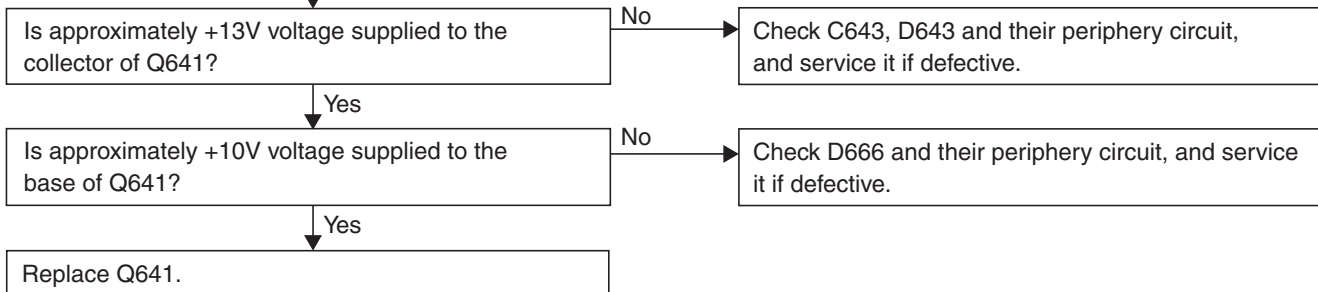
#### FLOW CHART NO.12

P-ON+3.3V(PANEL+3.3V) is not output.

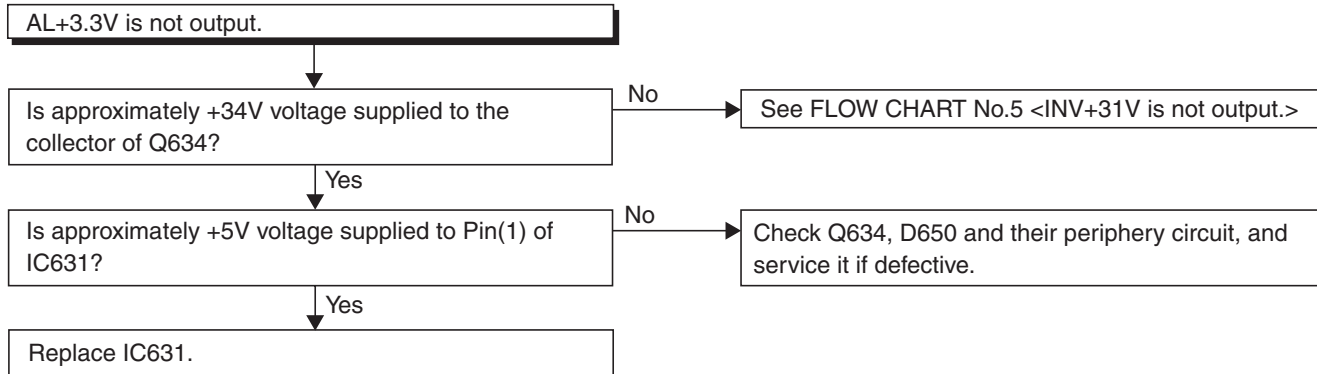


#### FLOW CHART NO.13

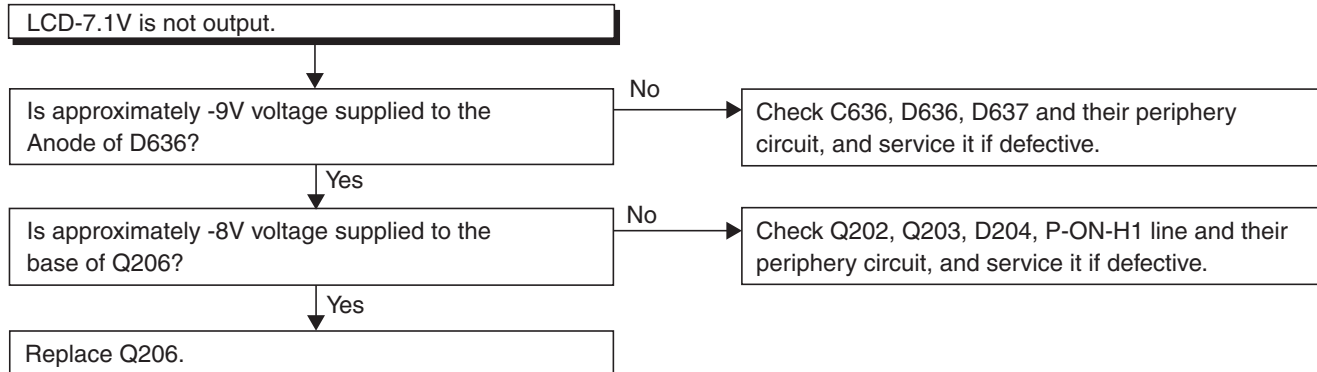
P-ON+9V is not output. (PANEL+13V is outputted normally.)



#### FLOW CHART NO.14

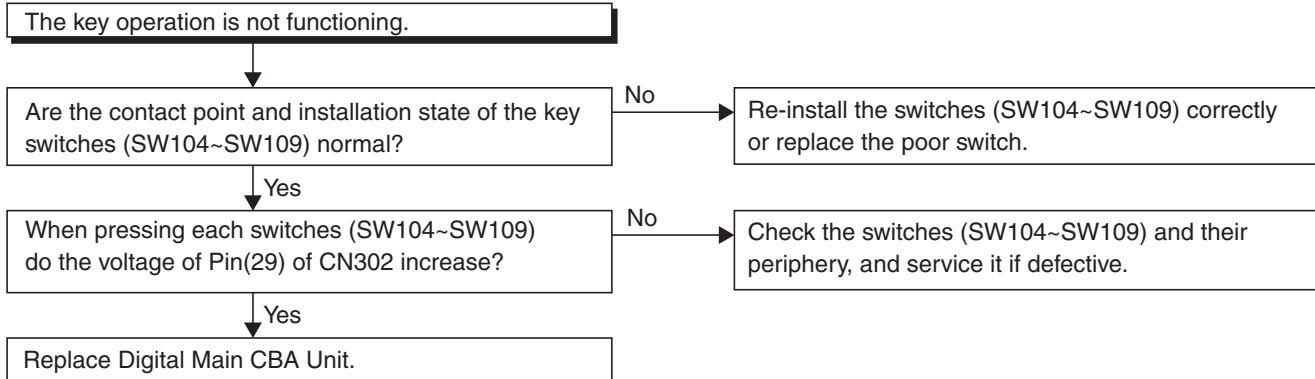


#### FLOW CHART NO.15

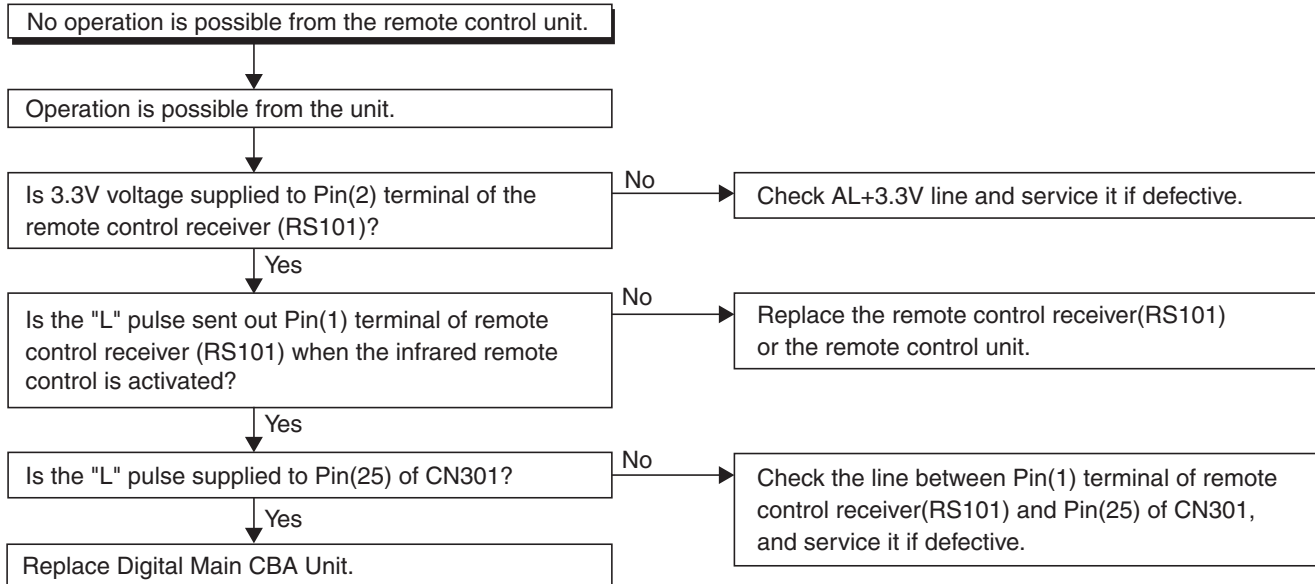


## [Video Signal Section]

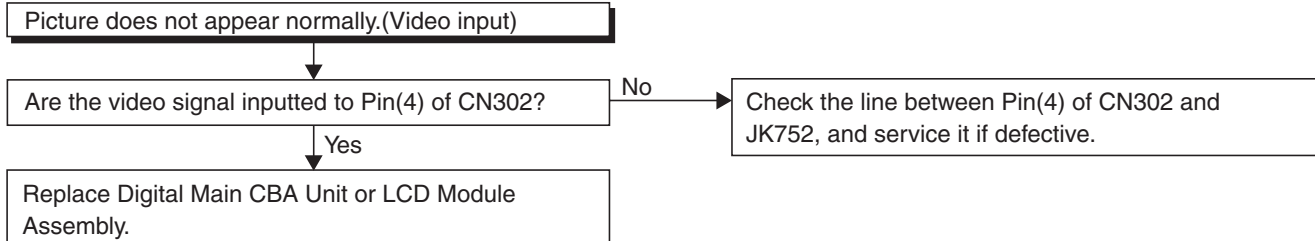
### FLOW CHART NO.1



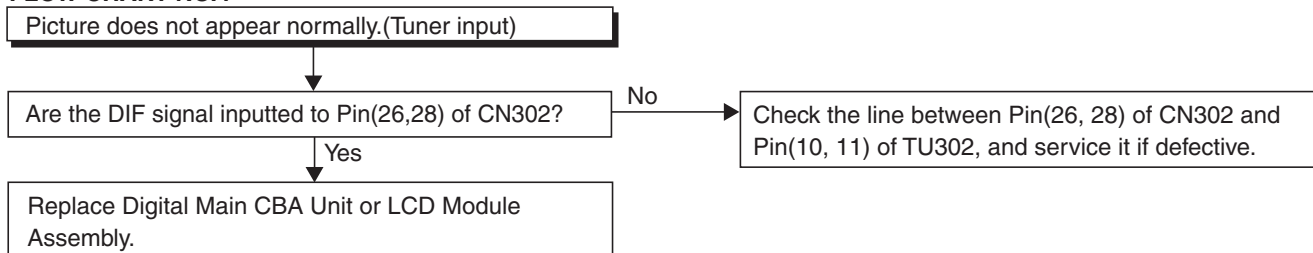
### FLOW CHART NO.2



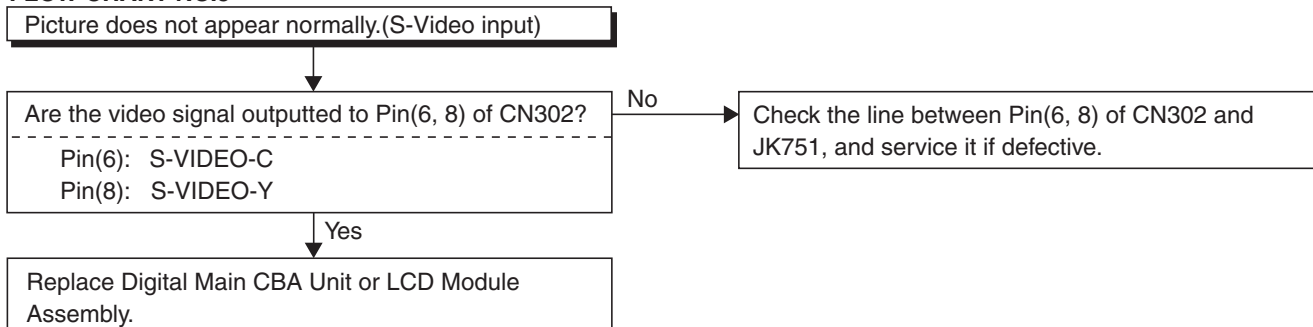
### FLOW CHART NO.3



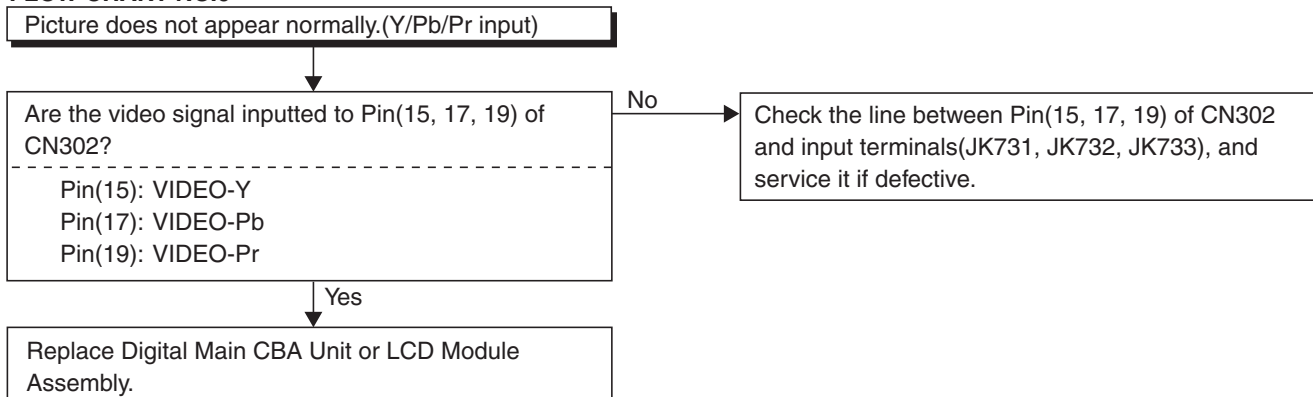
#### FLOW CHART NO.4



#### FLOW CHART NO.5

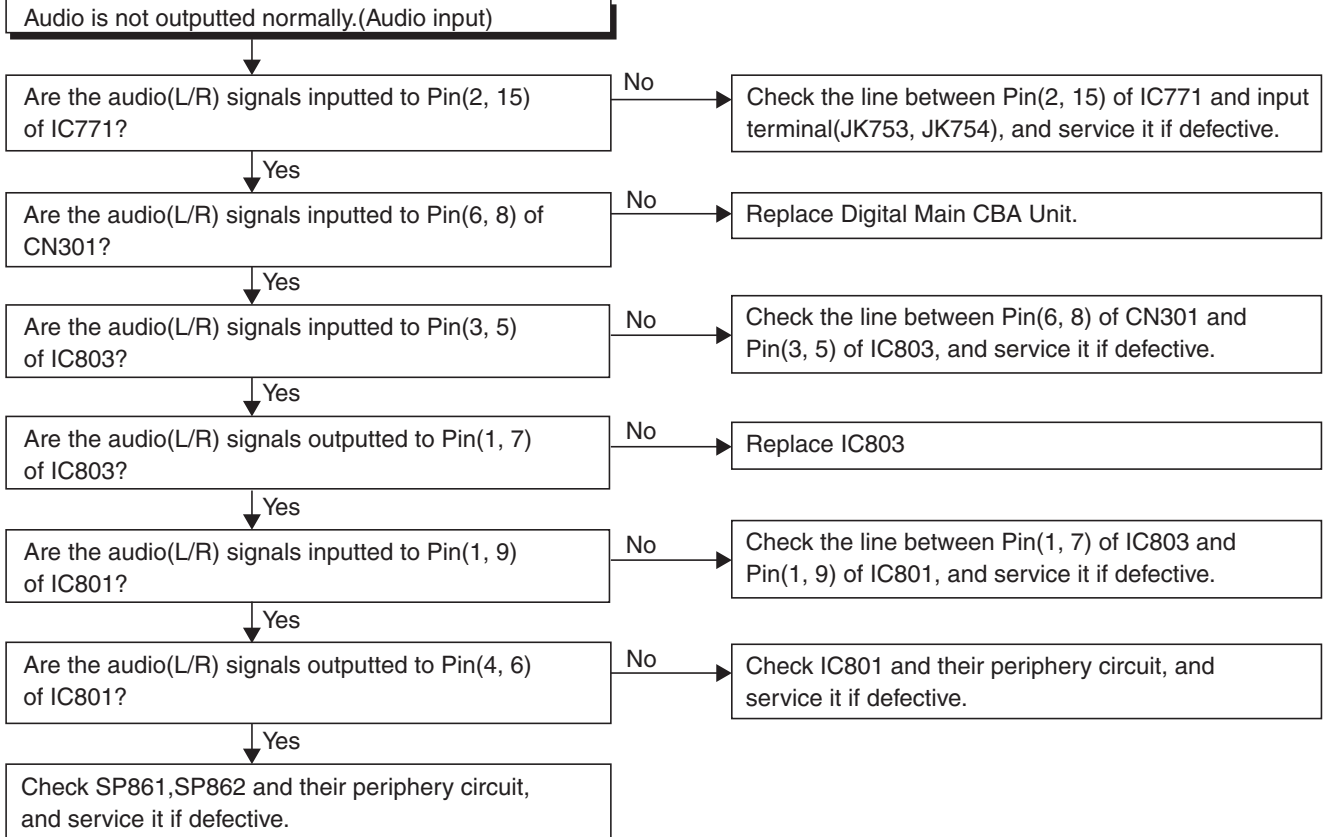


#### FLOW CHART NO.6

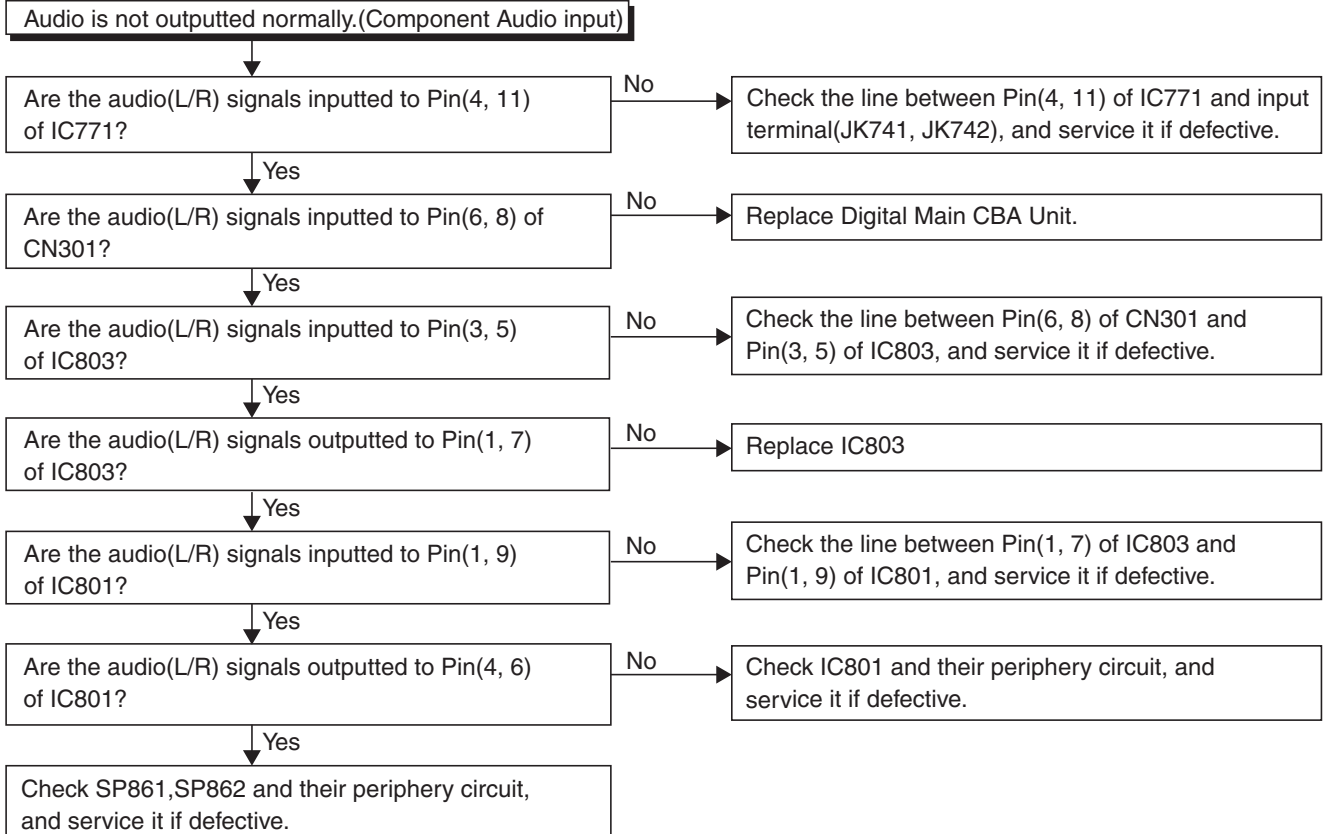


## [Audio Signal Section]

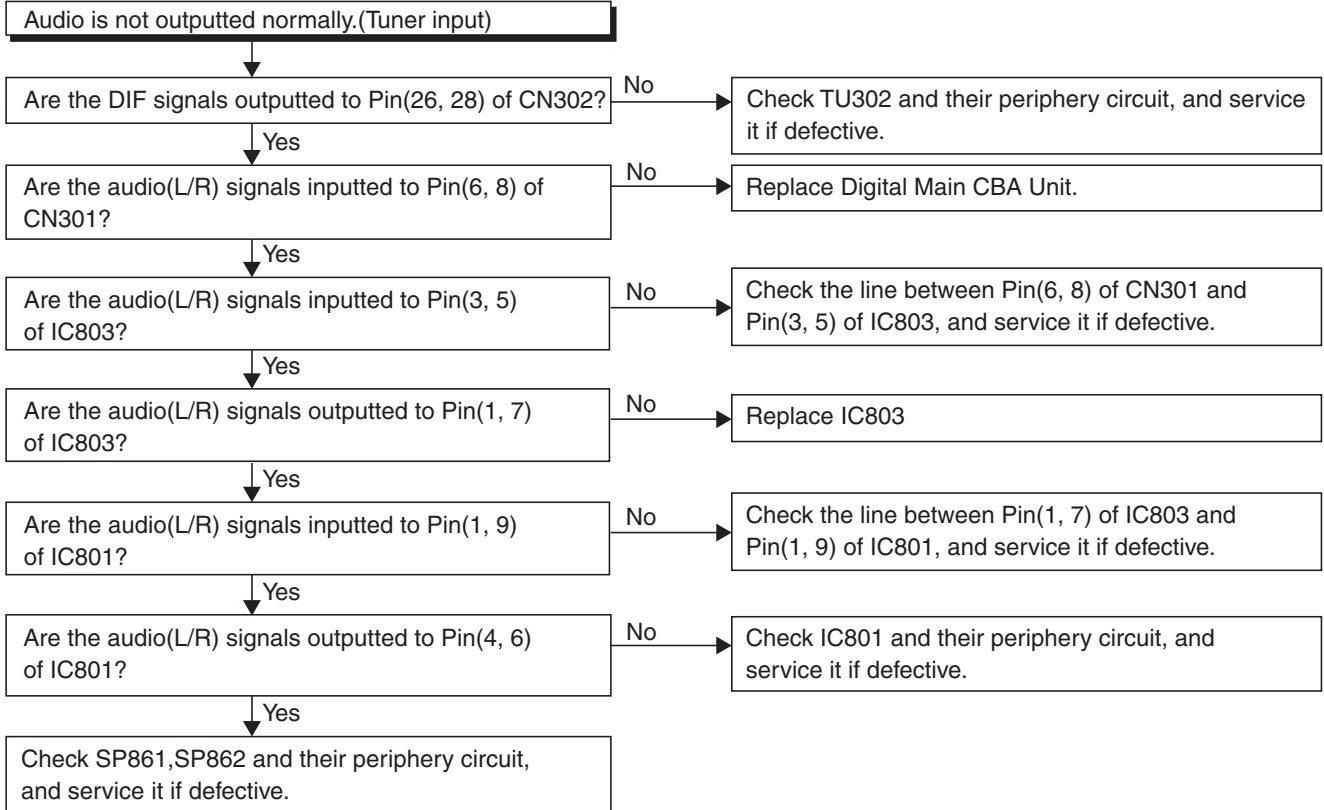
### FLOW CHART NO.1



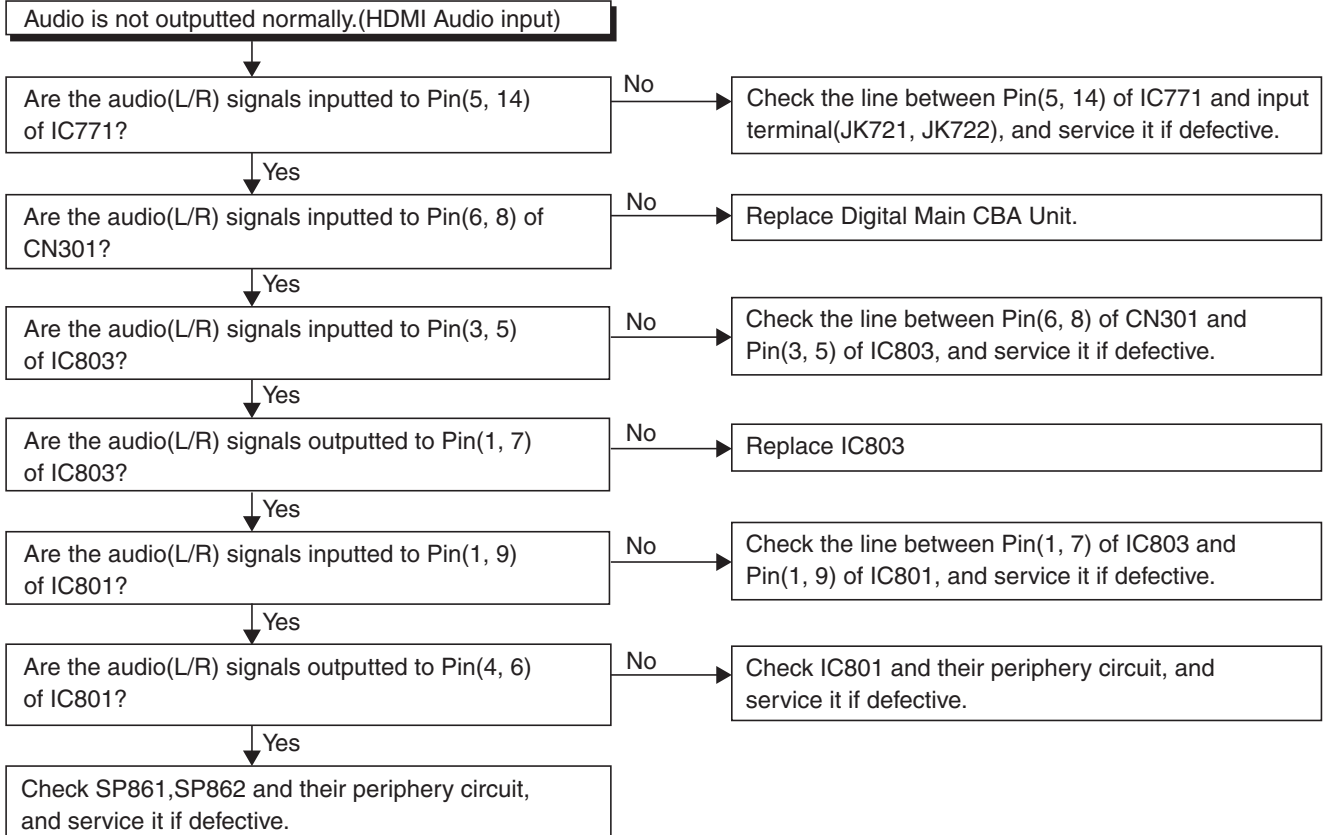
### FLOW CHART NO.2



### FLOW CHART NO.3

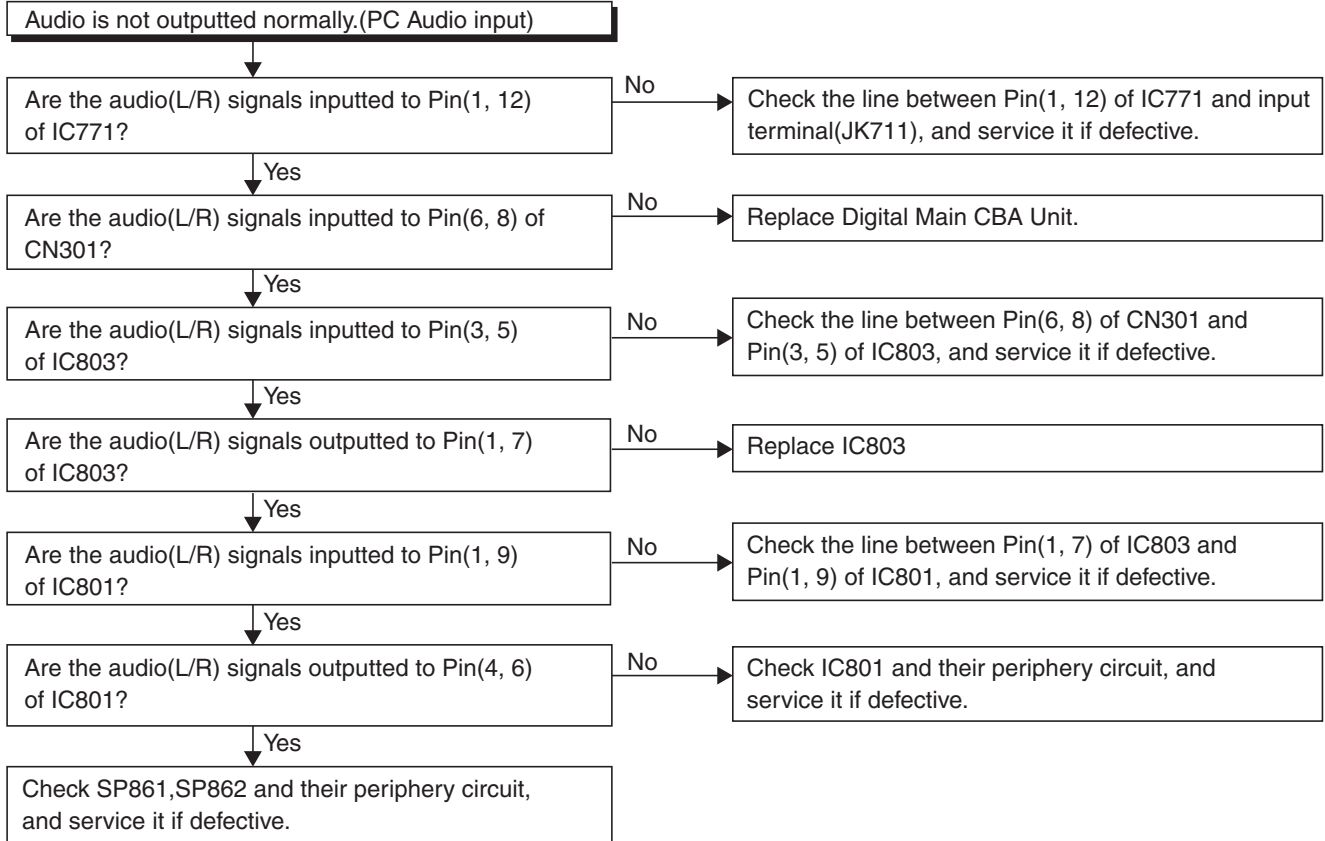


### FLOW CHART NO.4





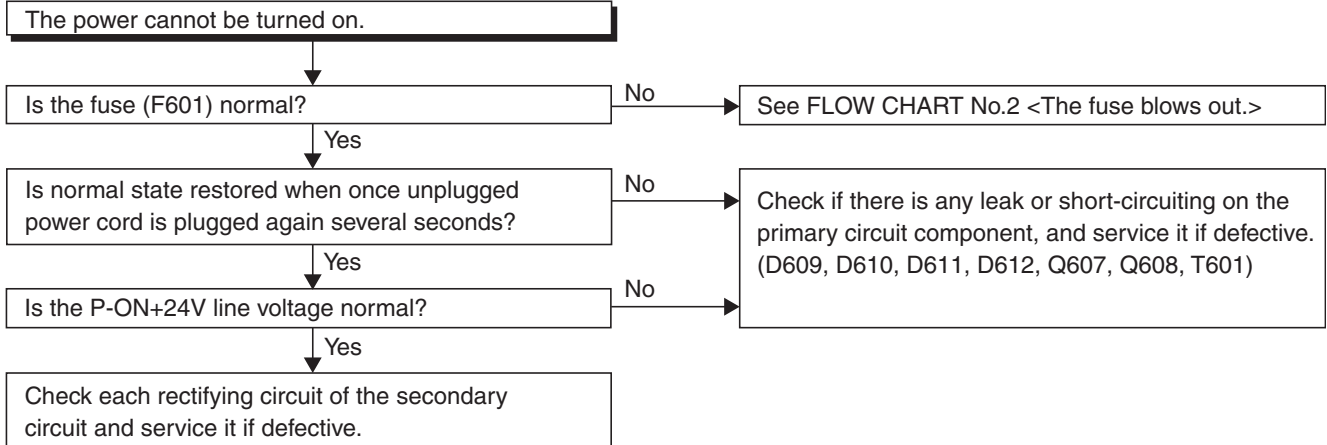
### FLOW CHART NO.5



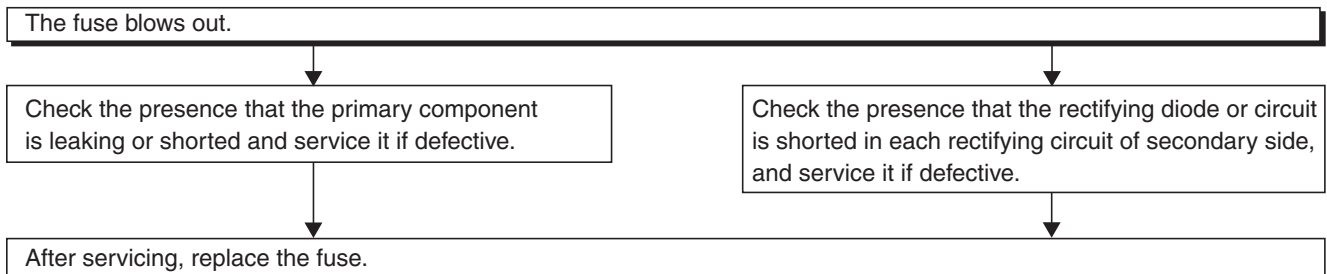
## [TYPE C]

### [Power Supply Section]

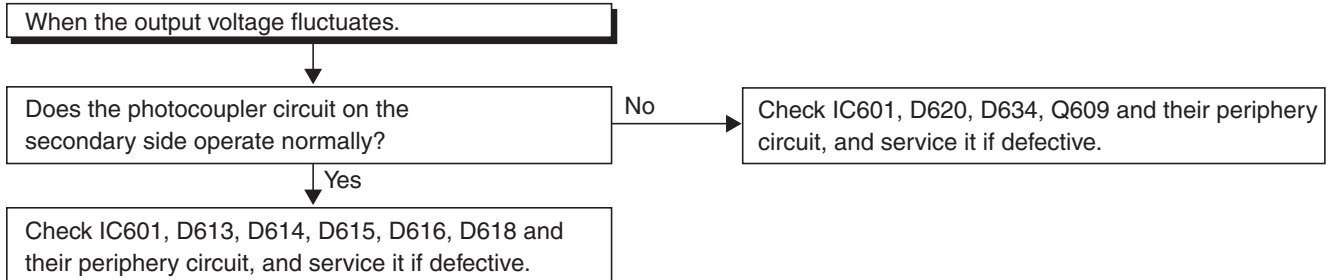
#### FLOW CHART NO.1



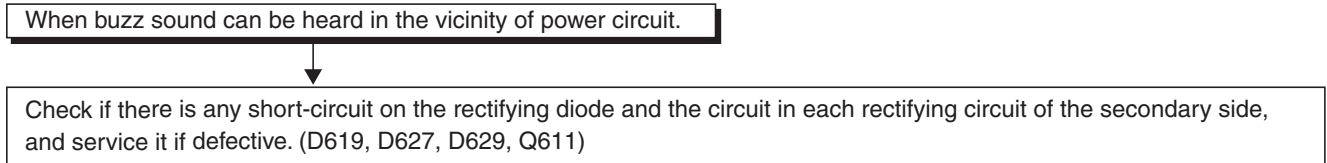
#### FLOW CHART NO.2



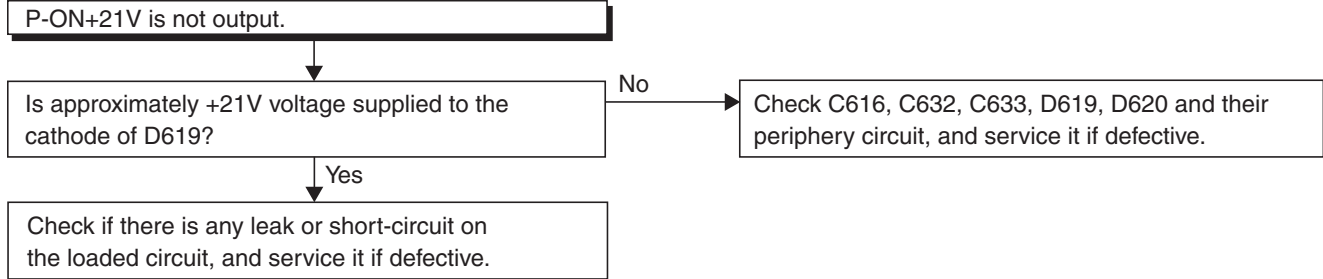
#### FLOW CHART NO.3



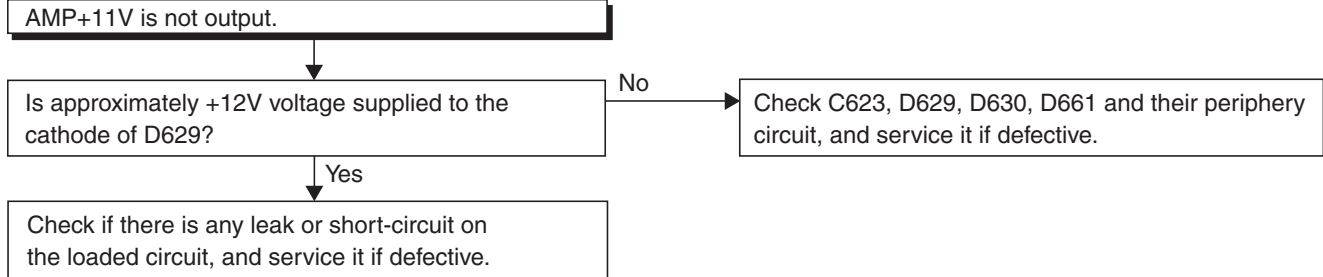
#### FLOW CHART NO.4



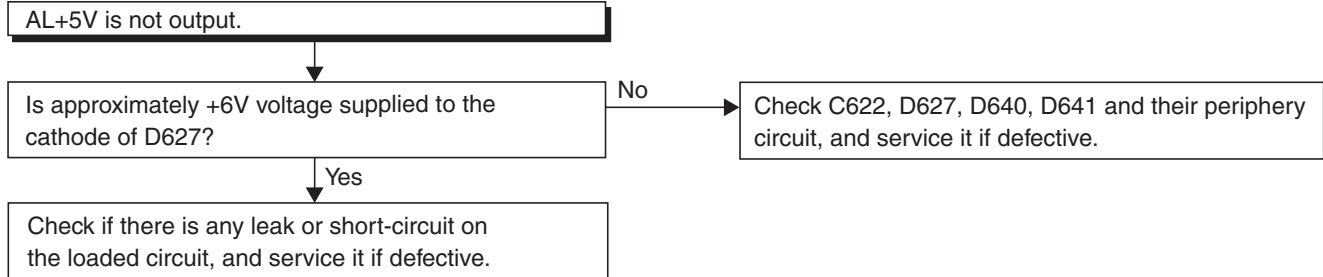
#### FLOW CHART NO.5



#### FLOW CHART NO.6

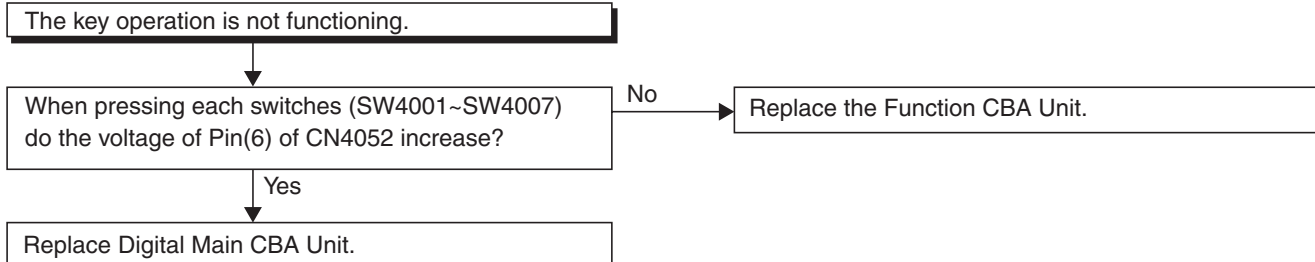


#### FLOW CHART NO.7

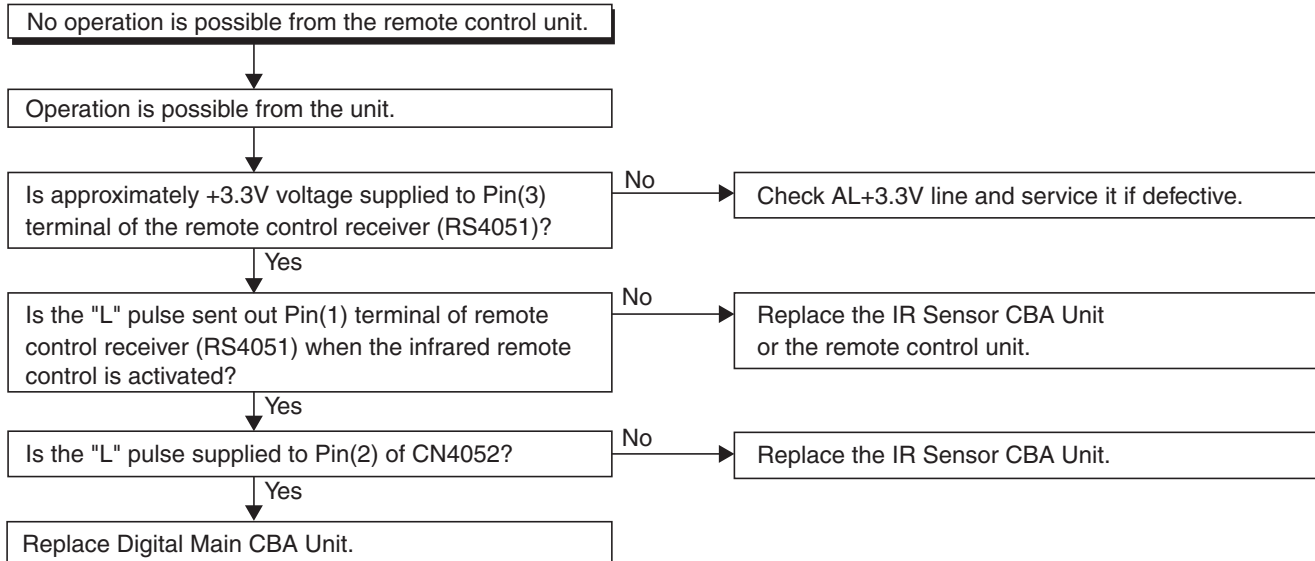


## [Video Signal Section]

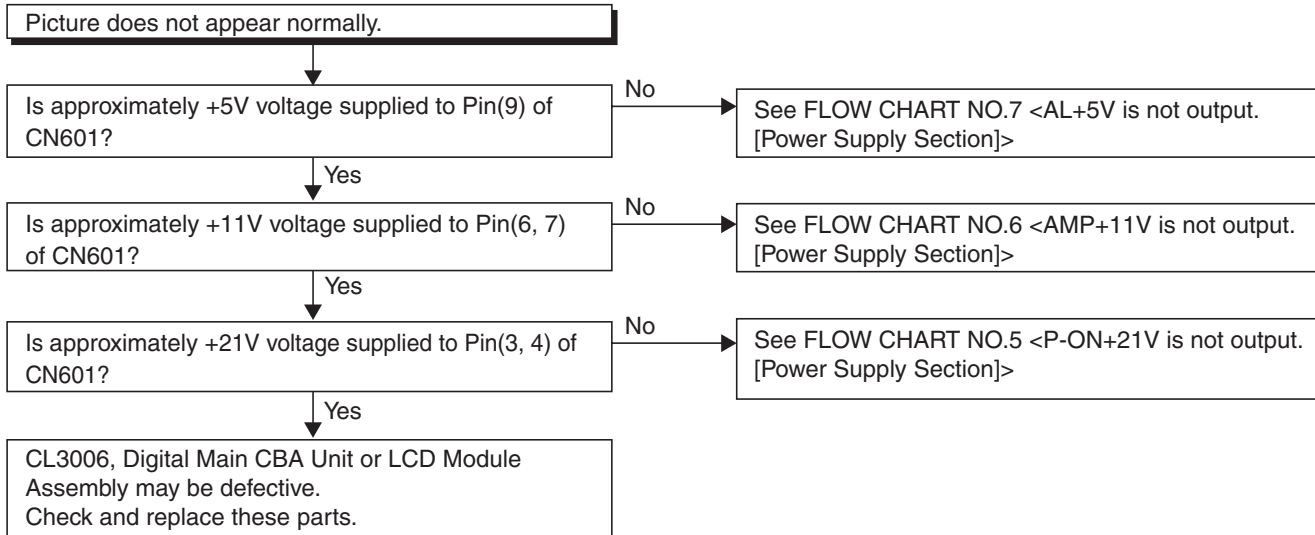
### FLOW CHART NO.1



### FLOW CHART NO.2

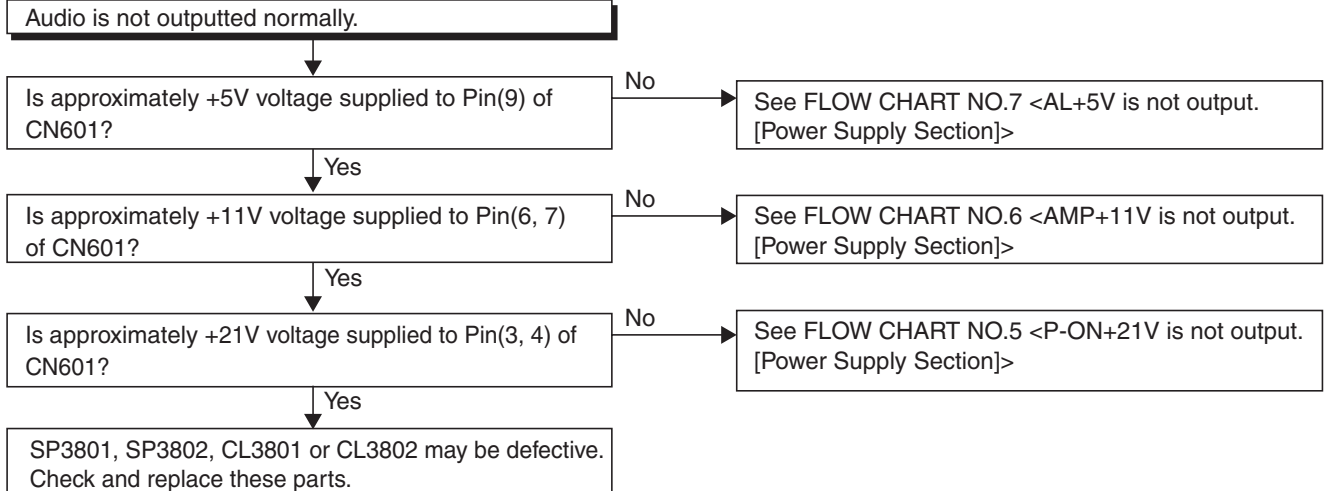


### FLOW CHART NO.3



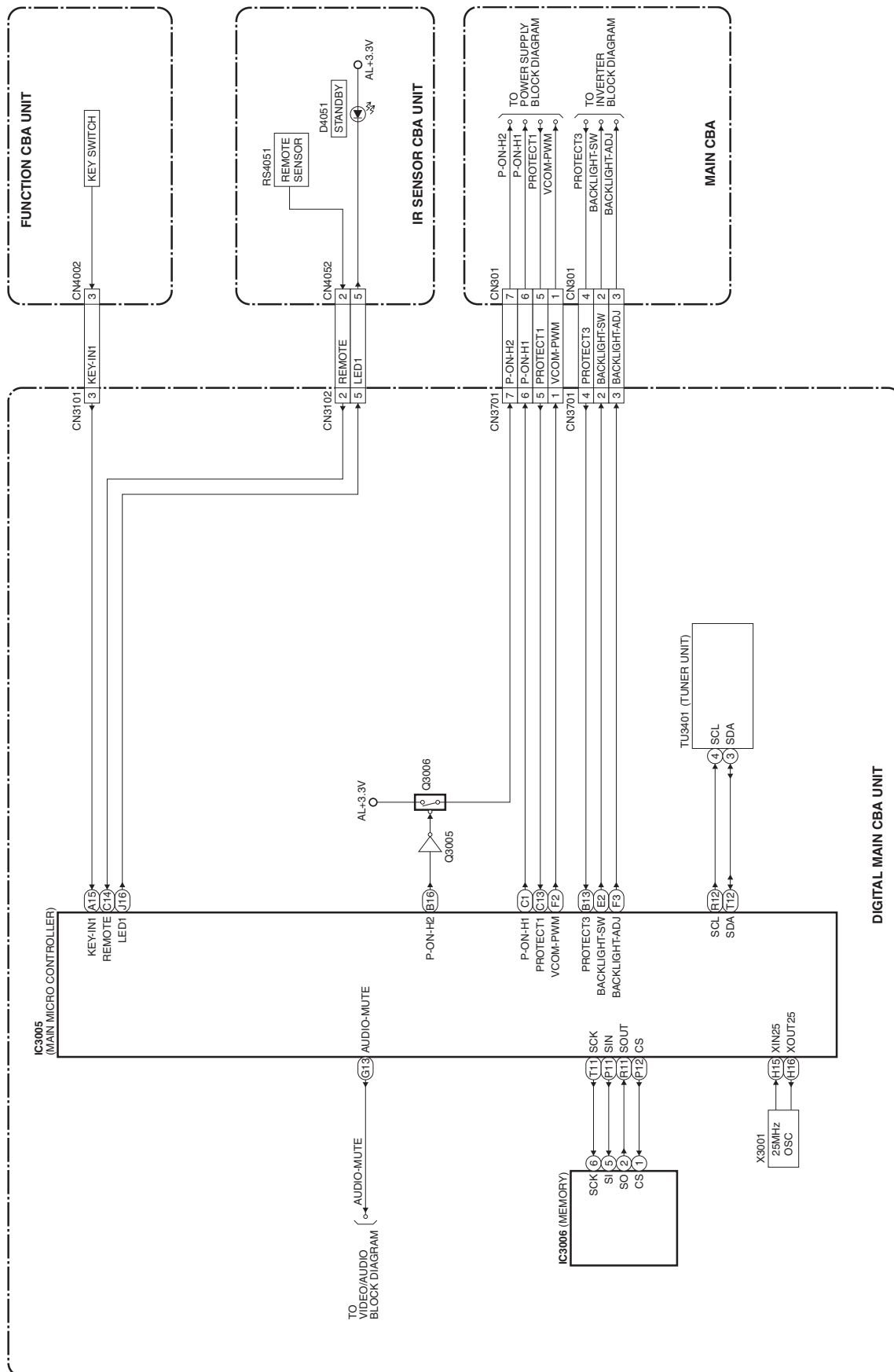
## [Audio Signal Section]

### FLOW CHART NO.1

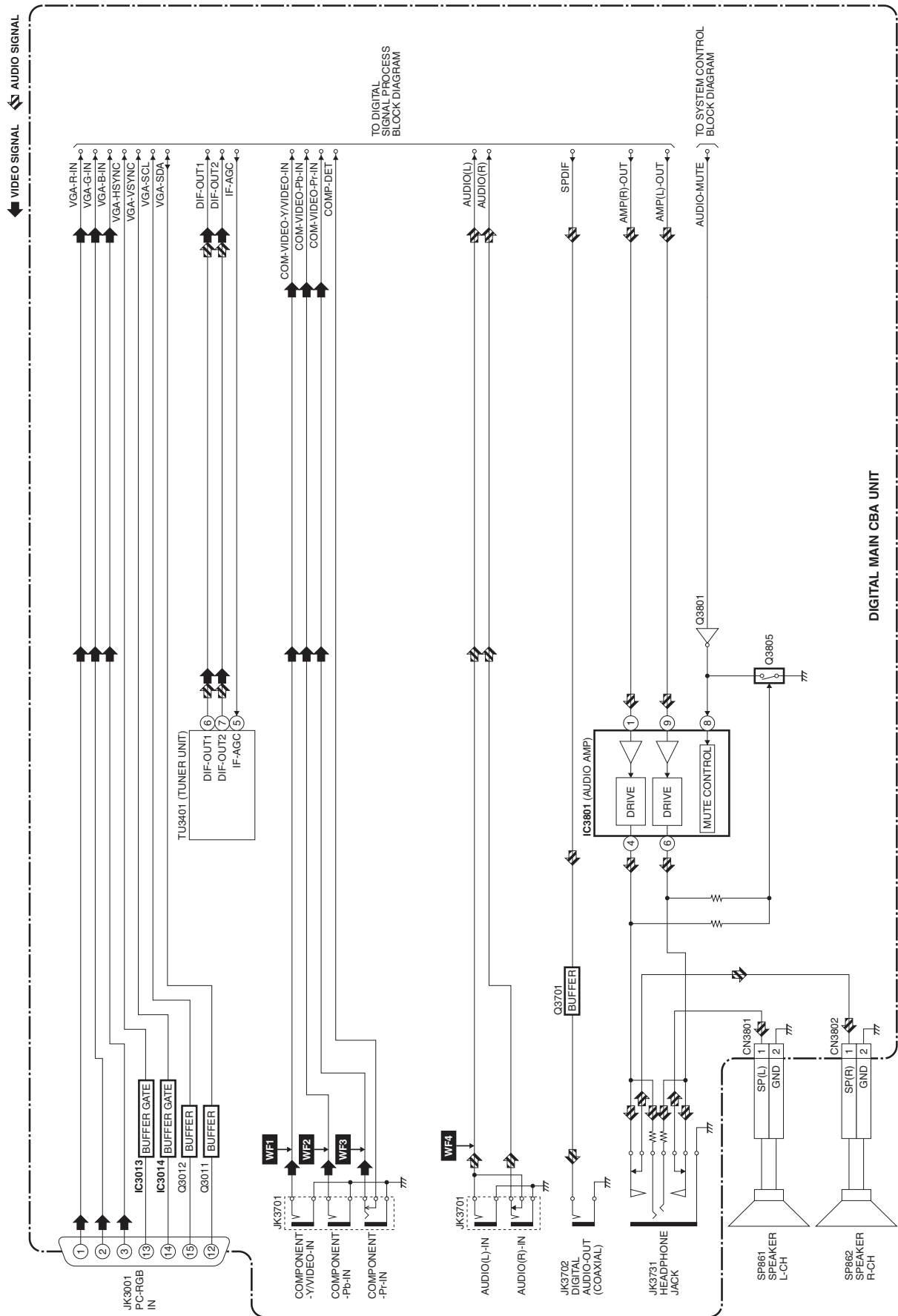


**[TYPE A]**

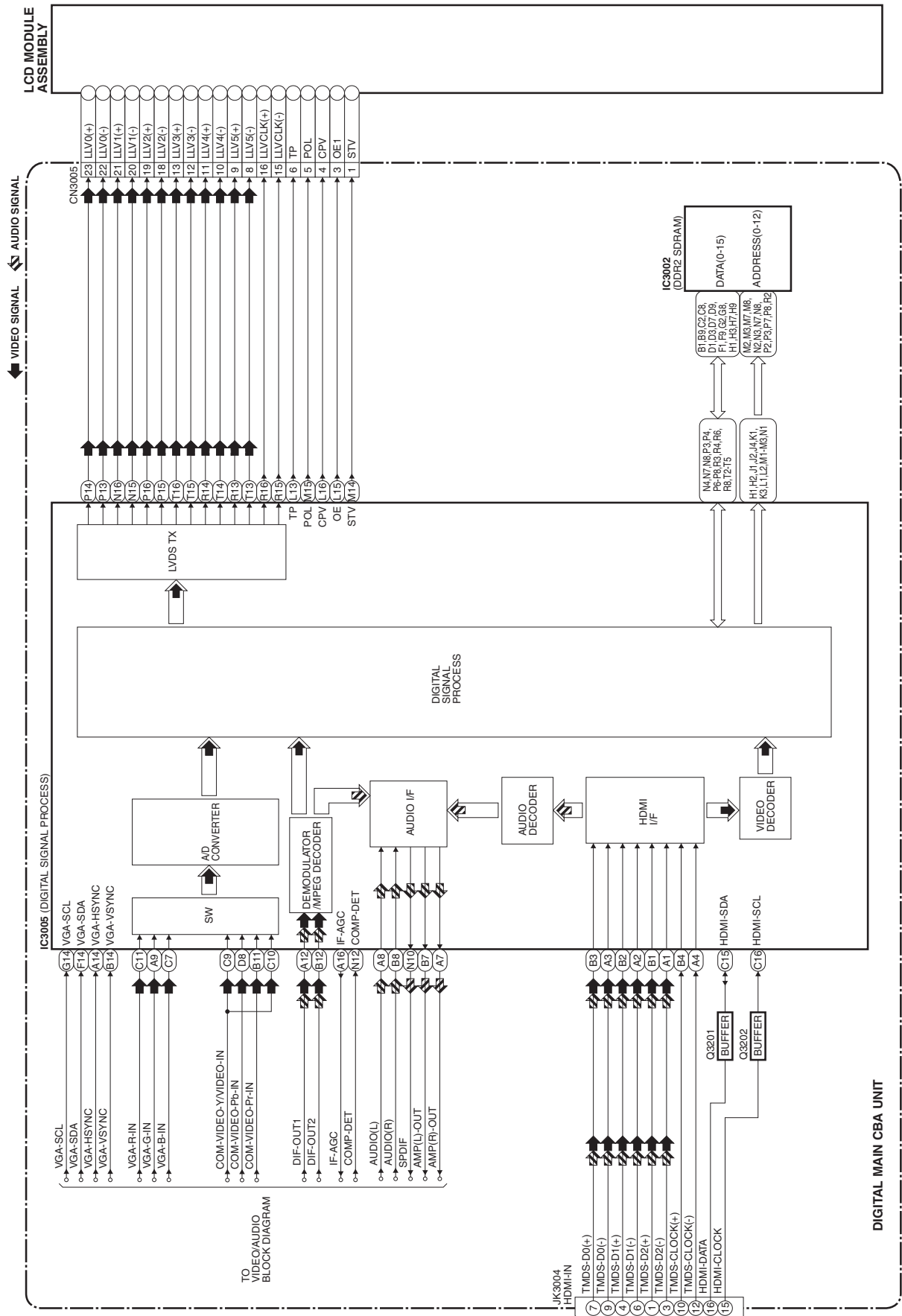
## 1. System Control Block Diagram



## 2. Video/Audio Block Diagram

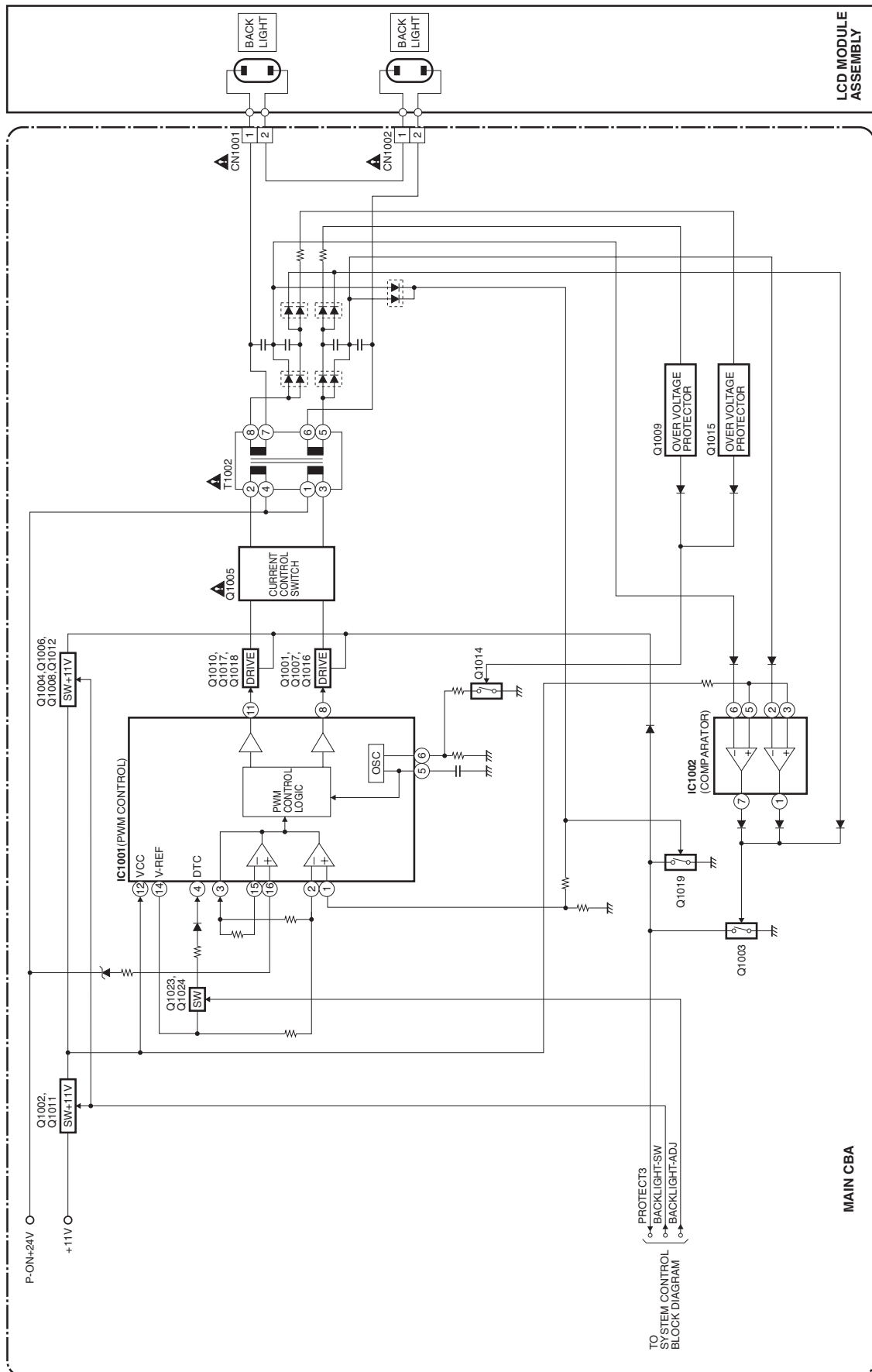


### 3. Digital Signal Process Block Diagram

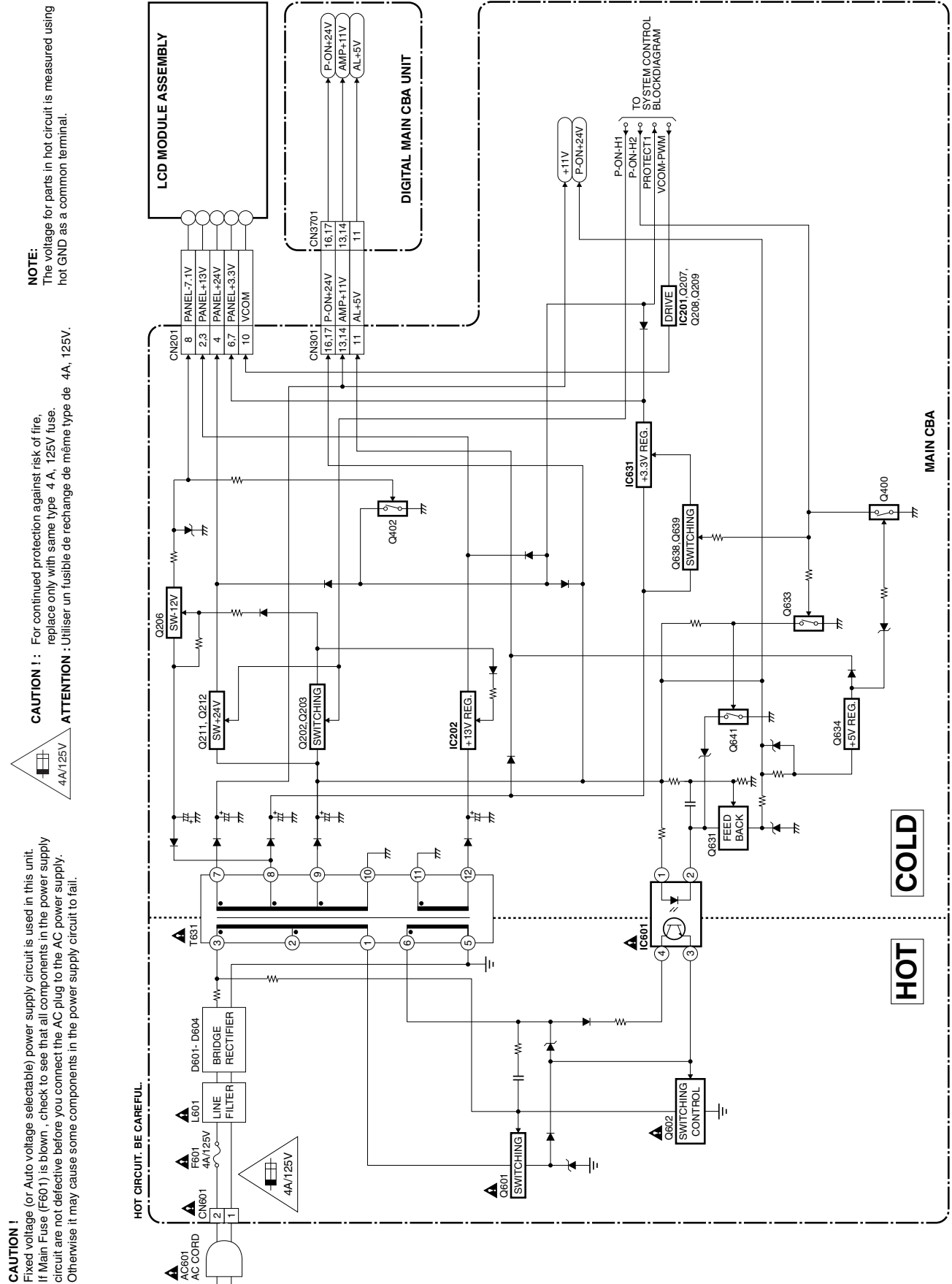




## 4. Inverter Block Diagram

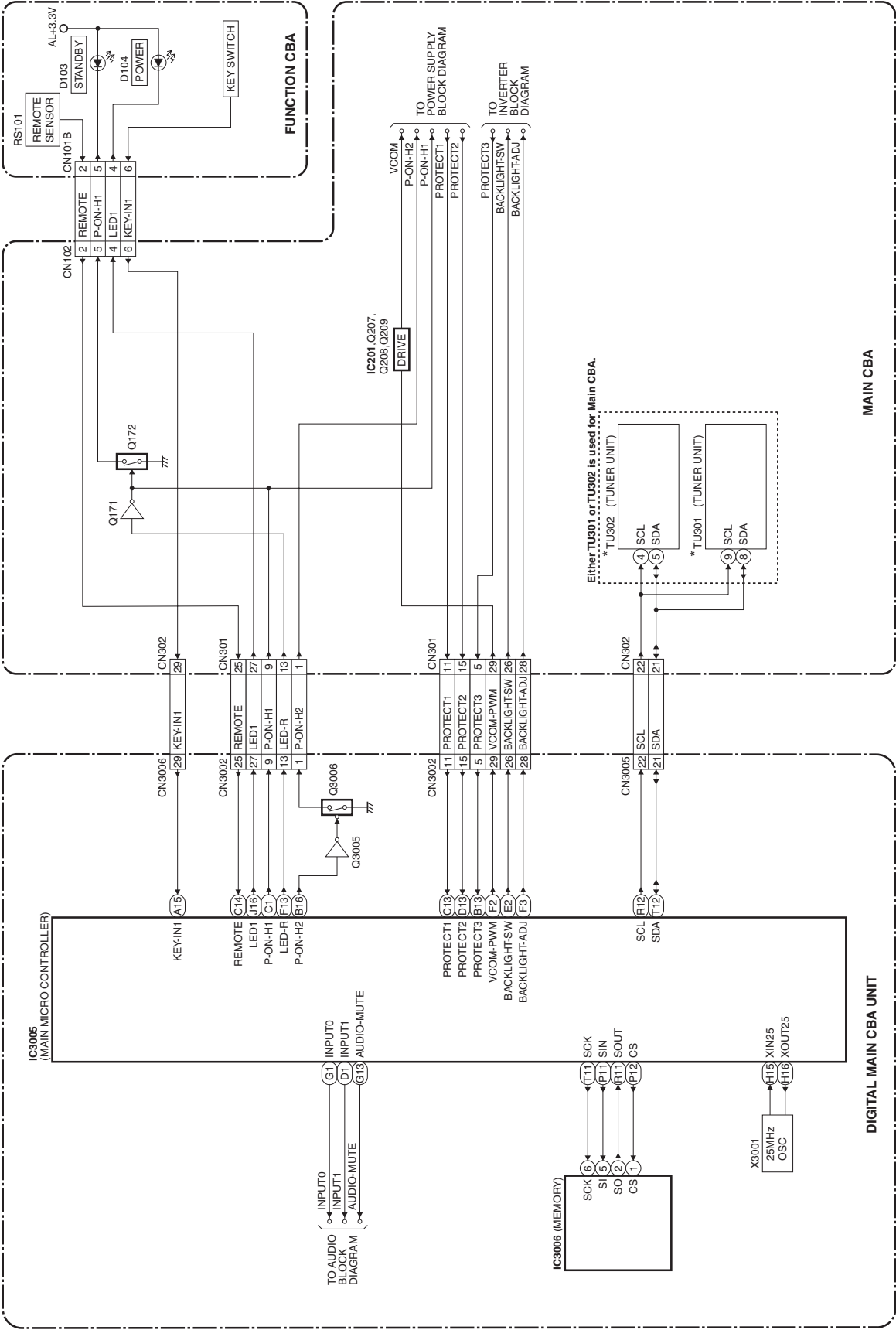


## 5. Power Supply Block Diagram

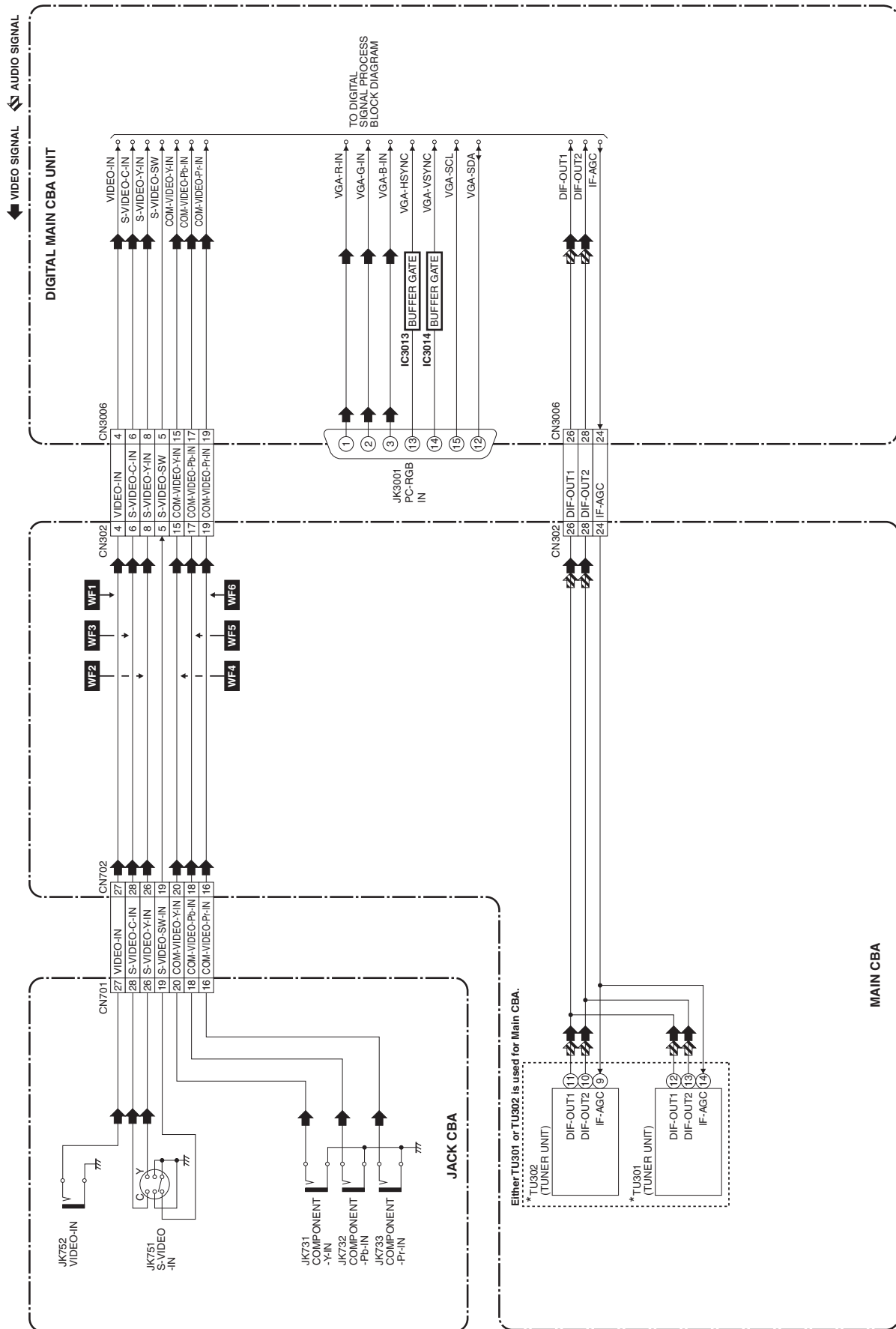


[TYPE B]

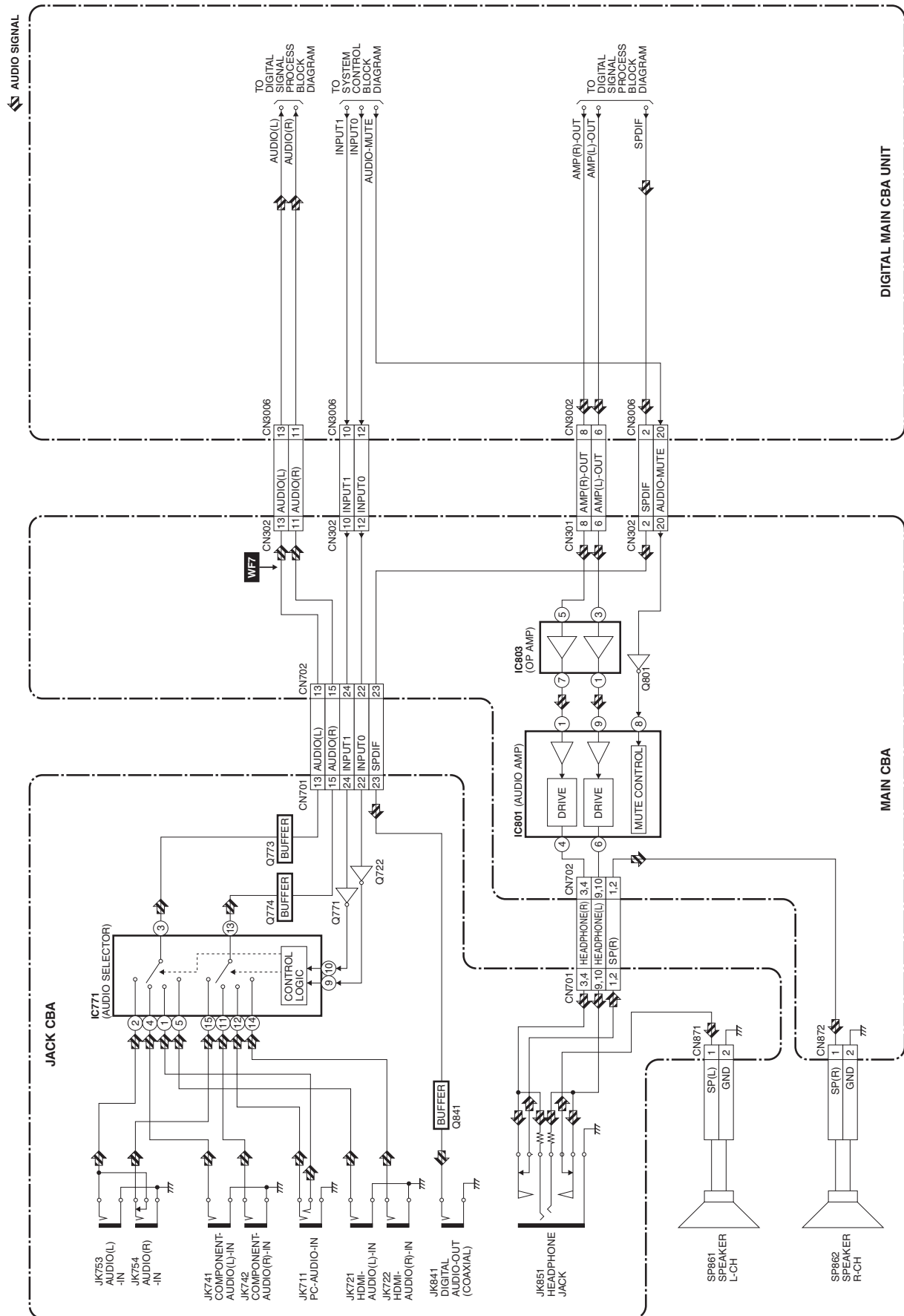
1. System Control Block Diagram



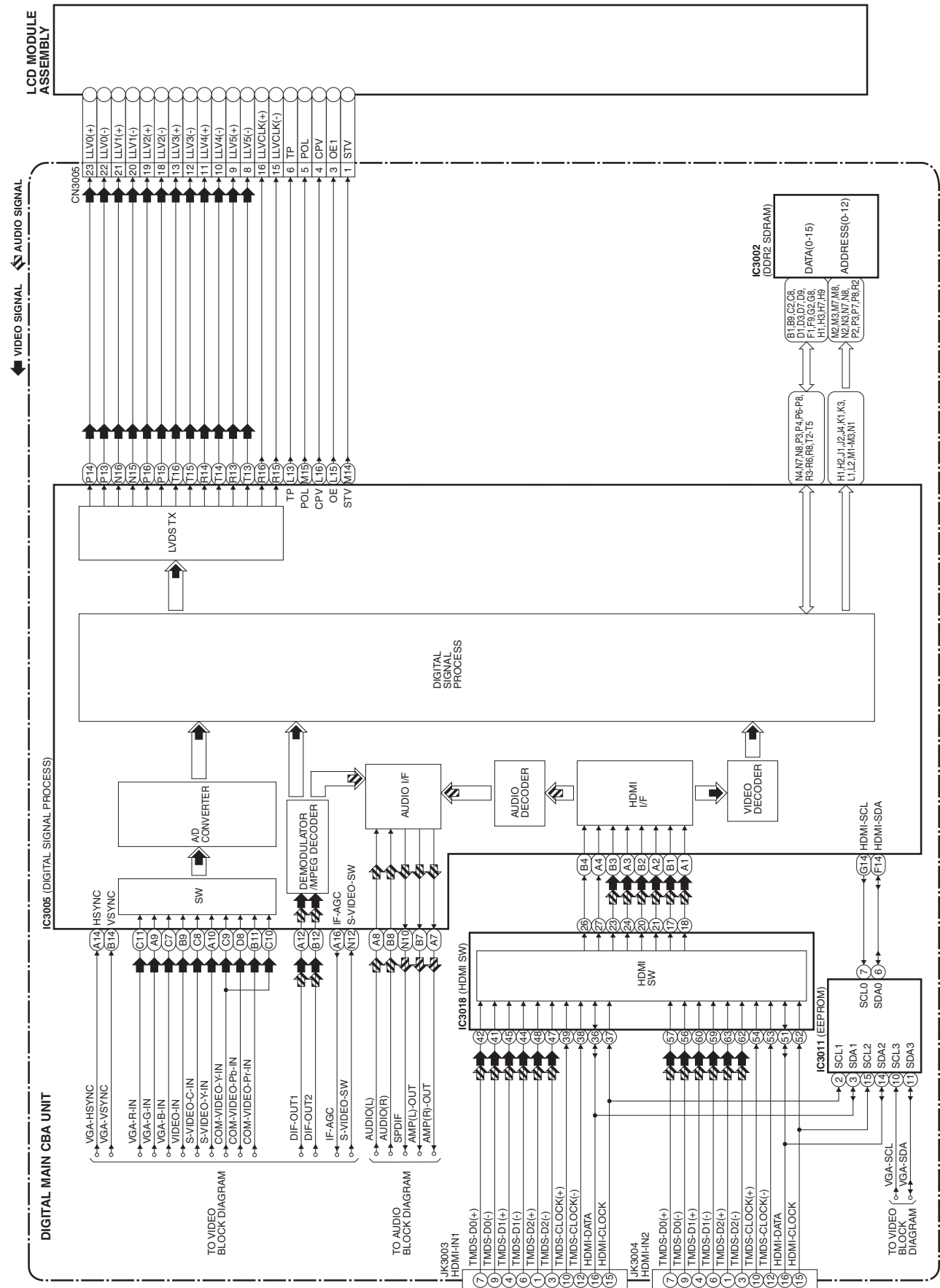
## 2. Video Block Diagram



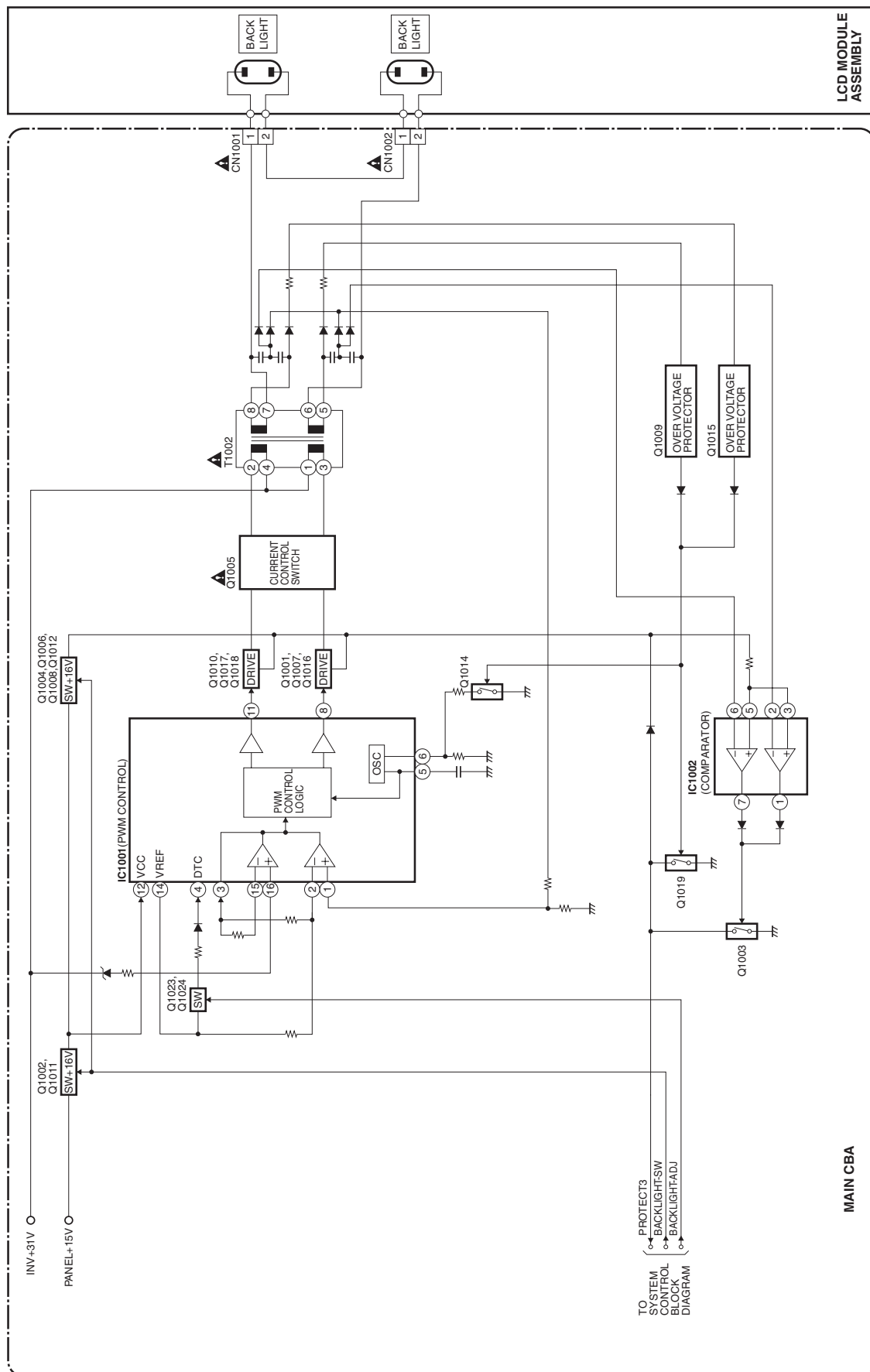
### 3. Audio Block Diagram



## 4. Digital Signal Process Block Diagram



## 5. Inverter Block Diagram



## 6. Power Supply Block Diagram

### CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

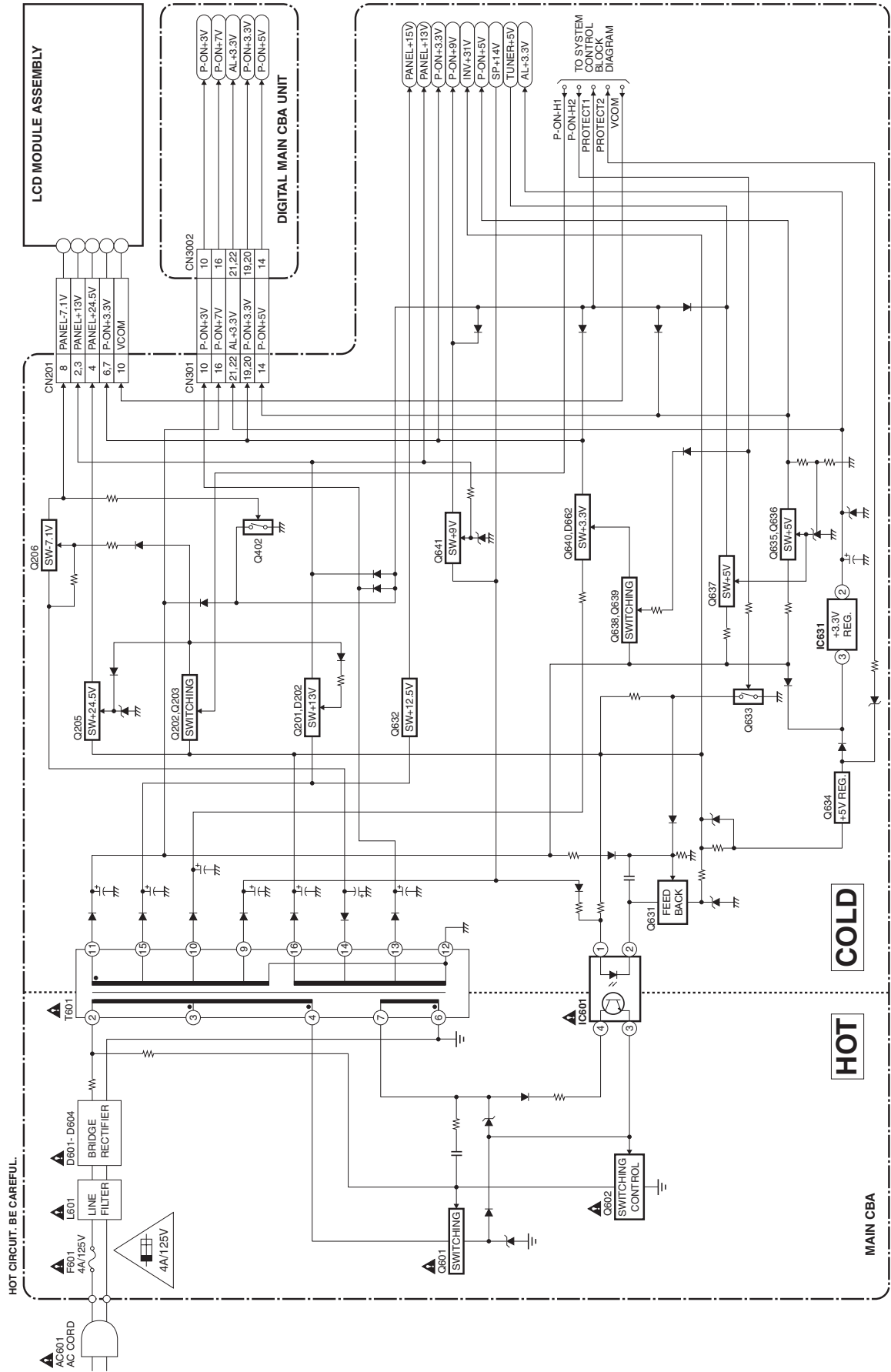


**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.

**ATTENTION :** Utiliser un fusible de même type de 4A, 125V.

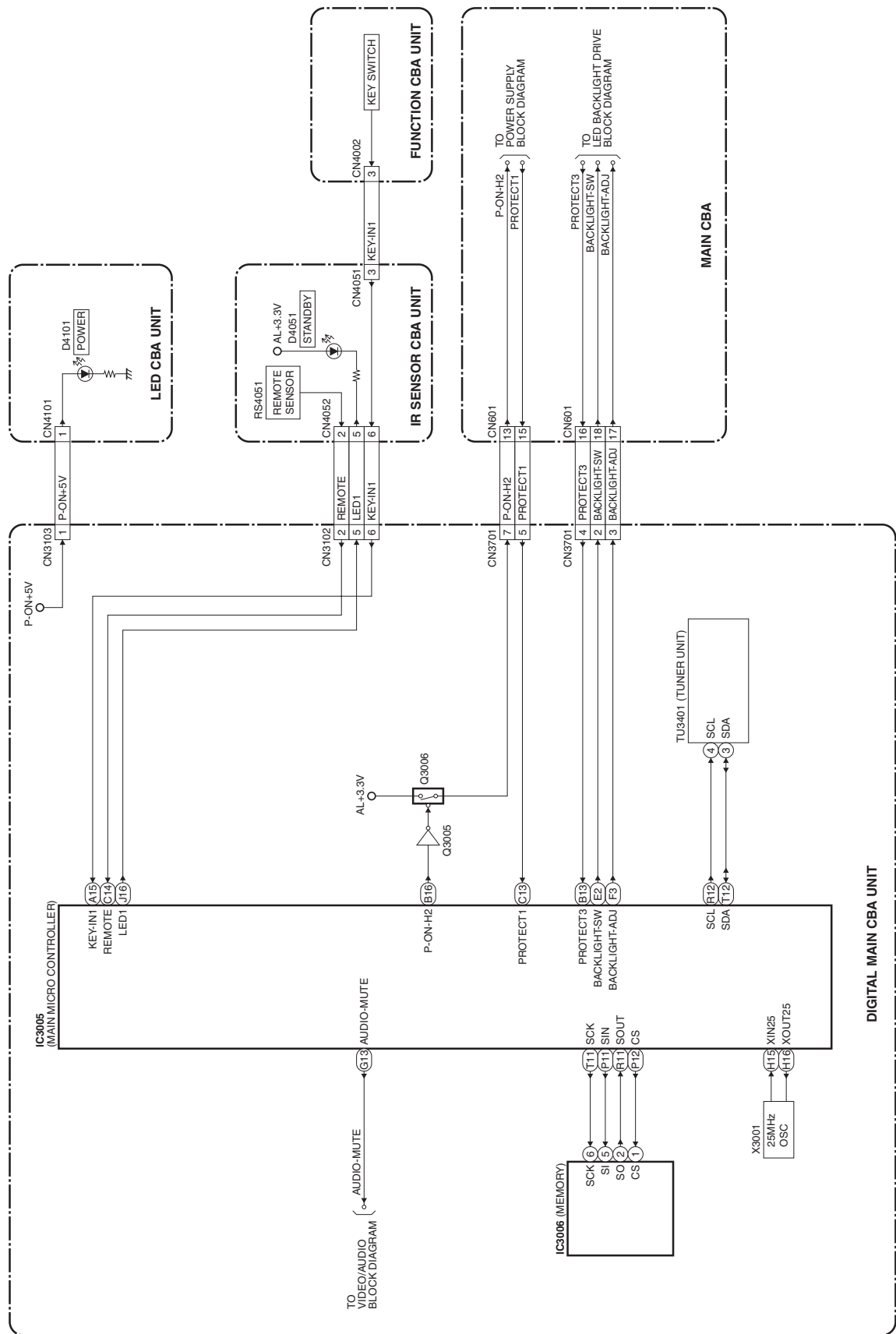
### NOTE:

The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.

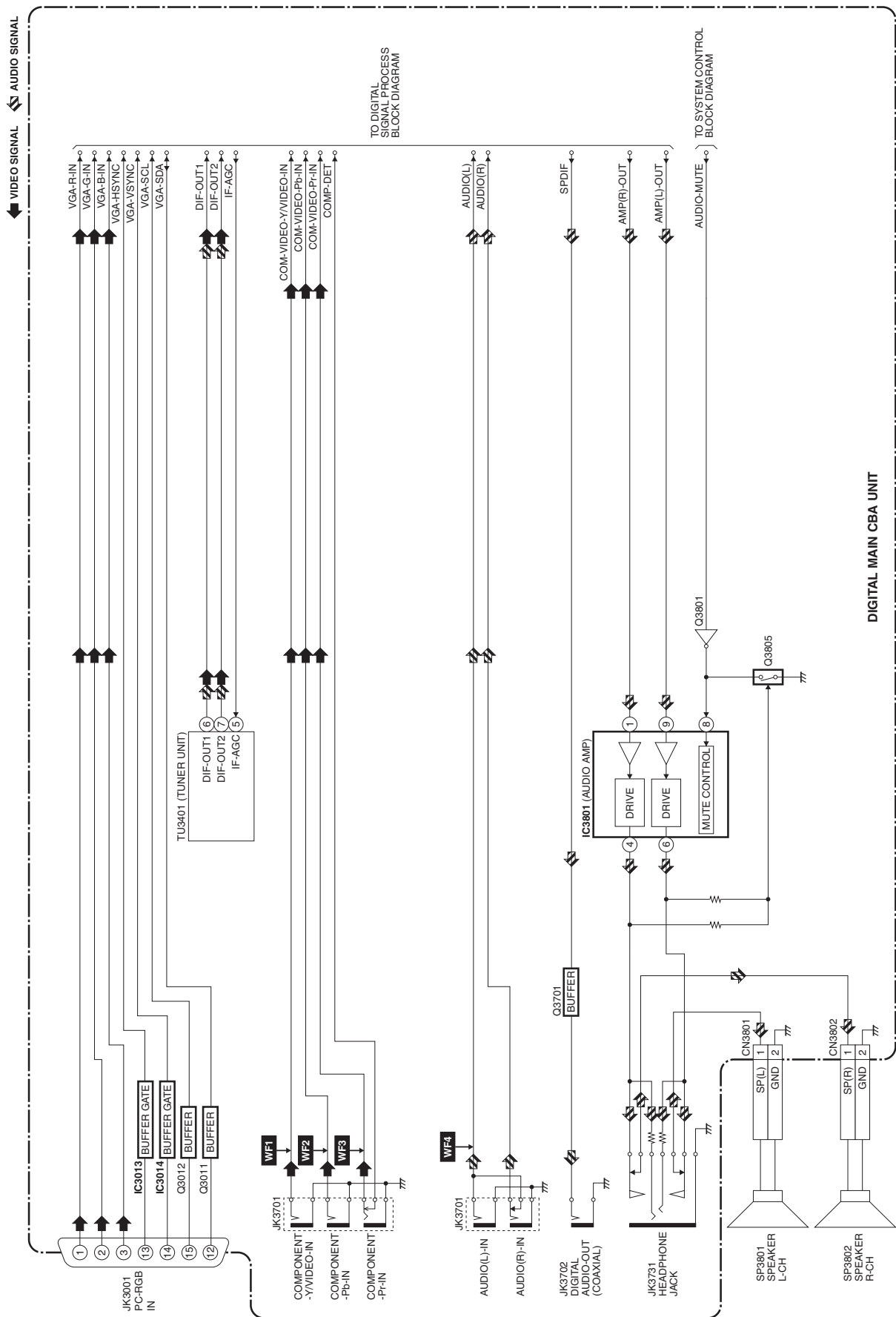




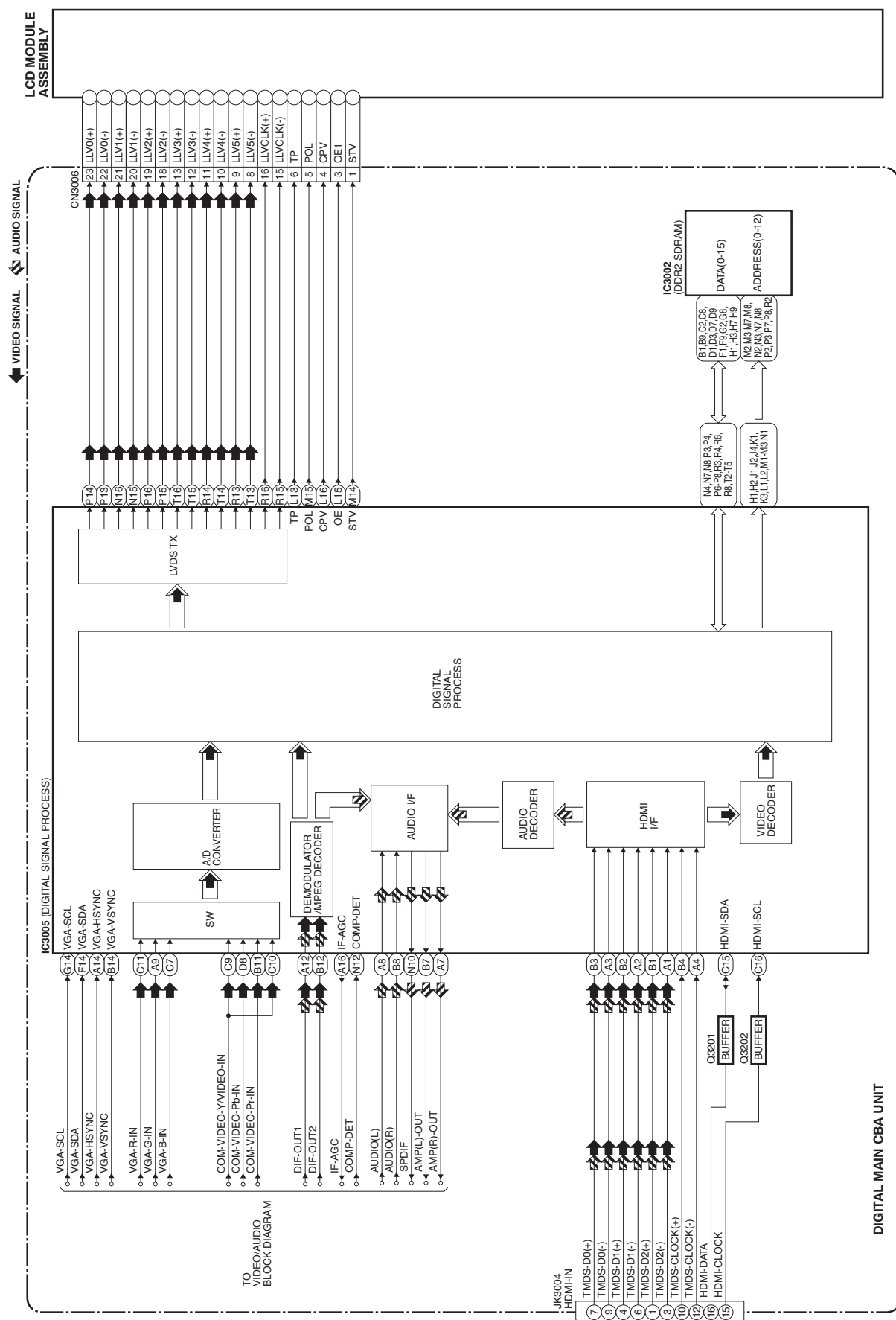
[TYPE C]  
1. System Control Block Diagram



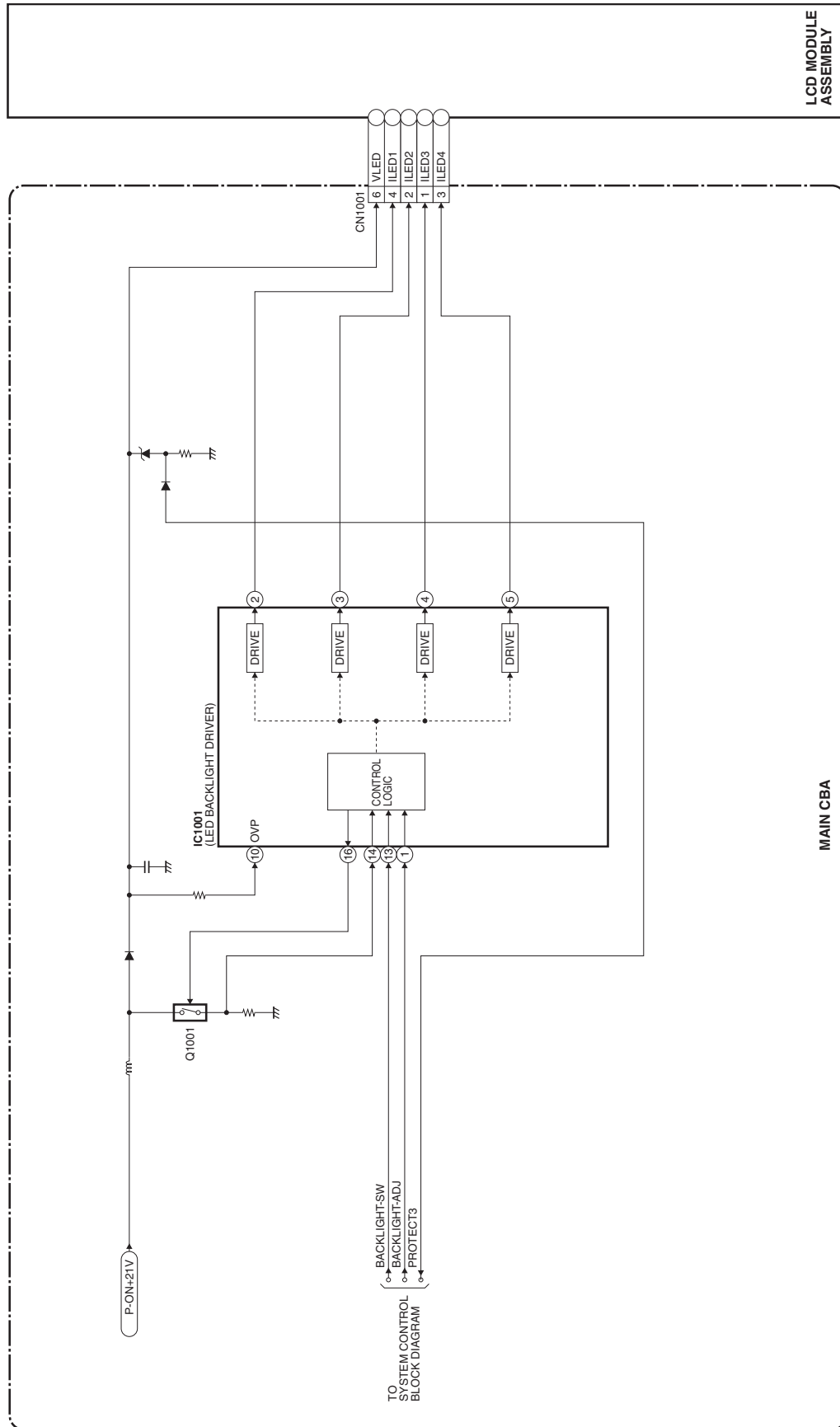
## 2. Video/Audio Block Diagram



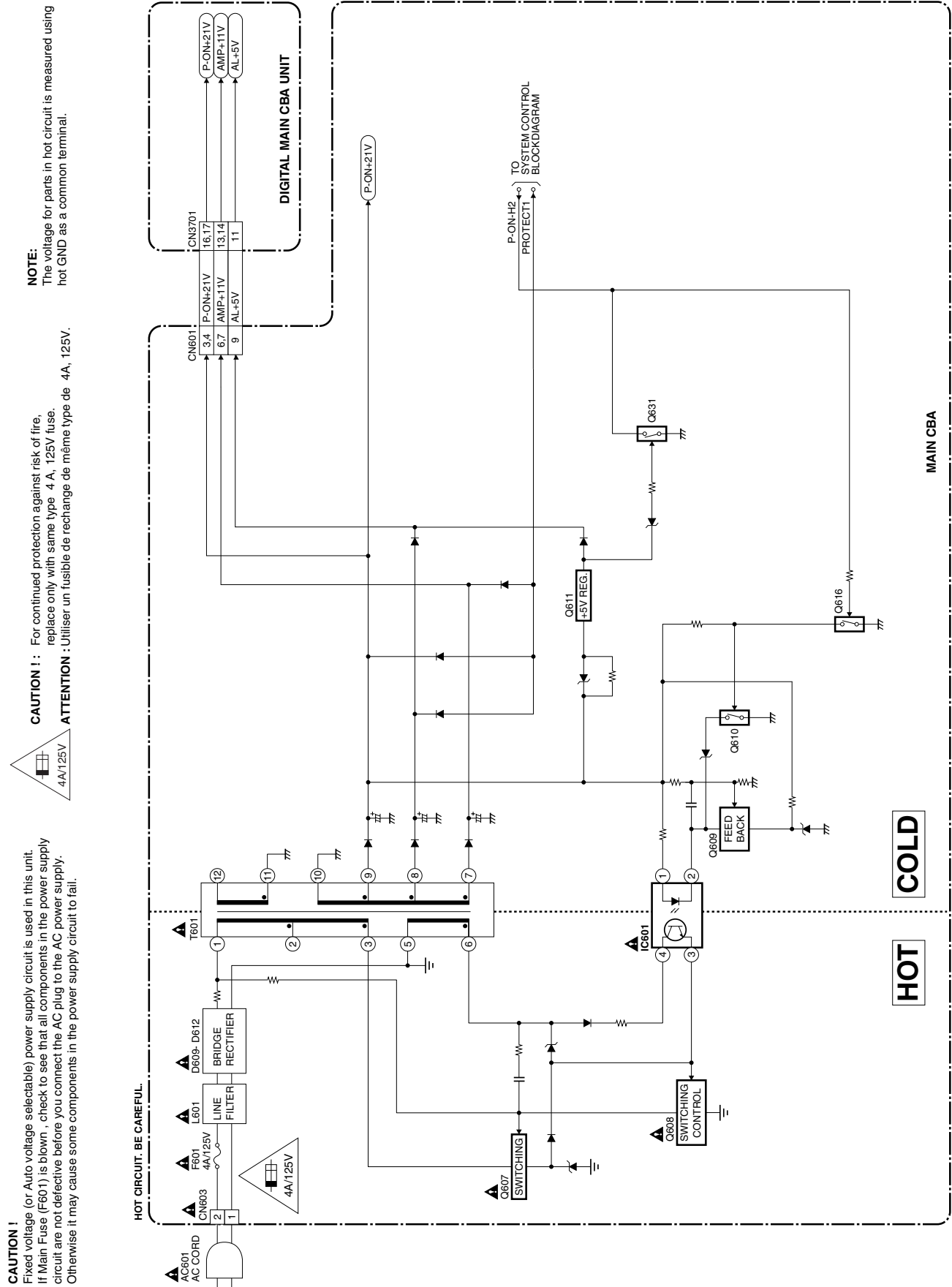
### 3. Digital Signal Process Block Diagram



## 4. LED Backlight Drive Block Diagram



## 5. Power Supply Block Diagram



# SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

## Standard Notes

### WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark “▲” in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

### Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ( $K = 10^3$ ,  $M = 10^6$ ).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in  $\mu F$  ( $P = 10^{-6} \mu F$ ).
5. All voltages are DC voltages unless otherwise specified.
6. This schematic diagrams are masterized version that should cover the entire FL11.0 chassis models. Thus some parts in detail illustrated on this schematic diagrams may vary depend on the model within the FL11.0 chassis. Please refer to the parts lists for each models.
7. The Circuit Board layout illustrated on this service manual is the latest version for this chassis at the moment of making this service manual. Depend on the mass production date of each model, the actual layout of each Board may differ slightly from this version.

## LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

### 1. CAUTION:

**CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE\_A,\_V FUSE.

**ATTENTION:** UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE\_A,\_V.

### 2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

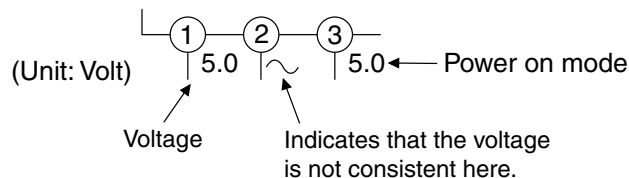
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

### 3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

### 4. Voltage indications on the schematics are as shown below:

Plug the TV power cord into a standard AC outlet.:

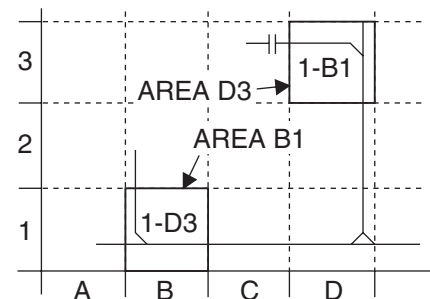


### 5. How to read converged lines

1-D3  
 ↑ Distinction Area  
 Line Number  
 (1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



### 6. Test Point Information

⊙ : Indicates a test point with a jumper wire across a hole in the PCB.

□→ : Used to indicate a test point with a component lead on foil side.

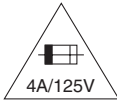
⊗ : Used to indicate a test point with no test pin.

● : Used to indicate a test point with a test pin.

The reference number of parts on Schematic Diagrams/CBA can be retrieved by application search function.

Main 1 Schematic Diagram [TYPE A]

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

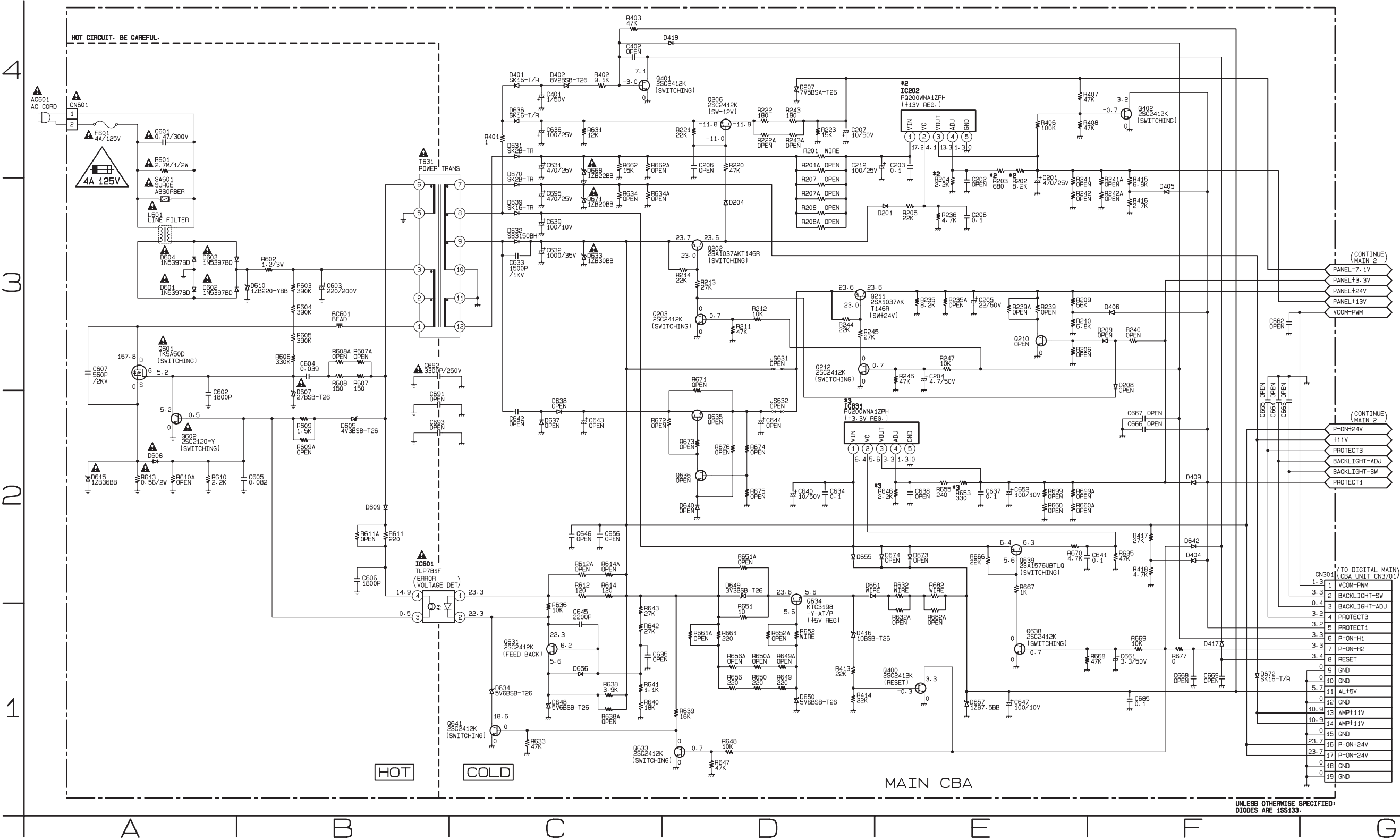
**NOTE:**  
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.

**\*2 NOTE**  
You cannot mix components under Type 1 with  
the ones under Type 2.  
Refer to Parts List of LC190EM2(Serial No.: TH1).

	Type 1	Type 2
IC202	KIA78R000ZF-RTF/P	PQ200WNA1ZPH
R202	9.1k $\Omega$	8.2k $\Omega$
R203	510 $\Omega$	680 $\Omega$
R204	1k $\Omega$	2.2k $\Omega$

**\*3 NOTE**  
You cannot mix components under Type 1 with  
the ones under Type 2.  
Refer to Parts List of LC190EM2(Serial No.: TH1).

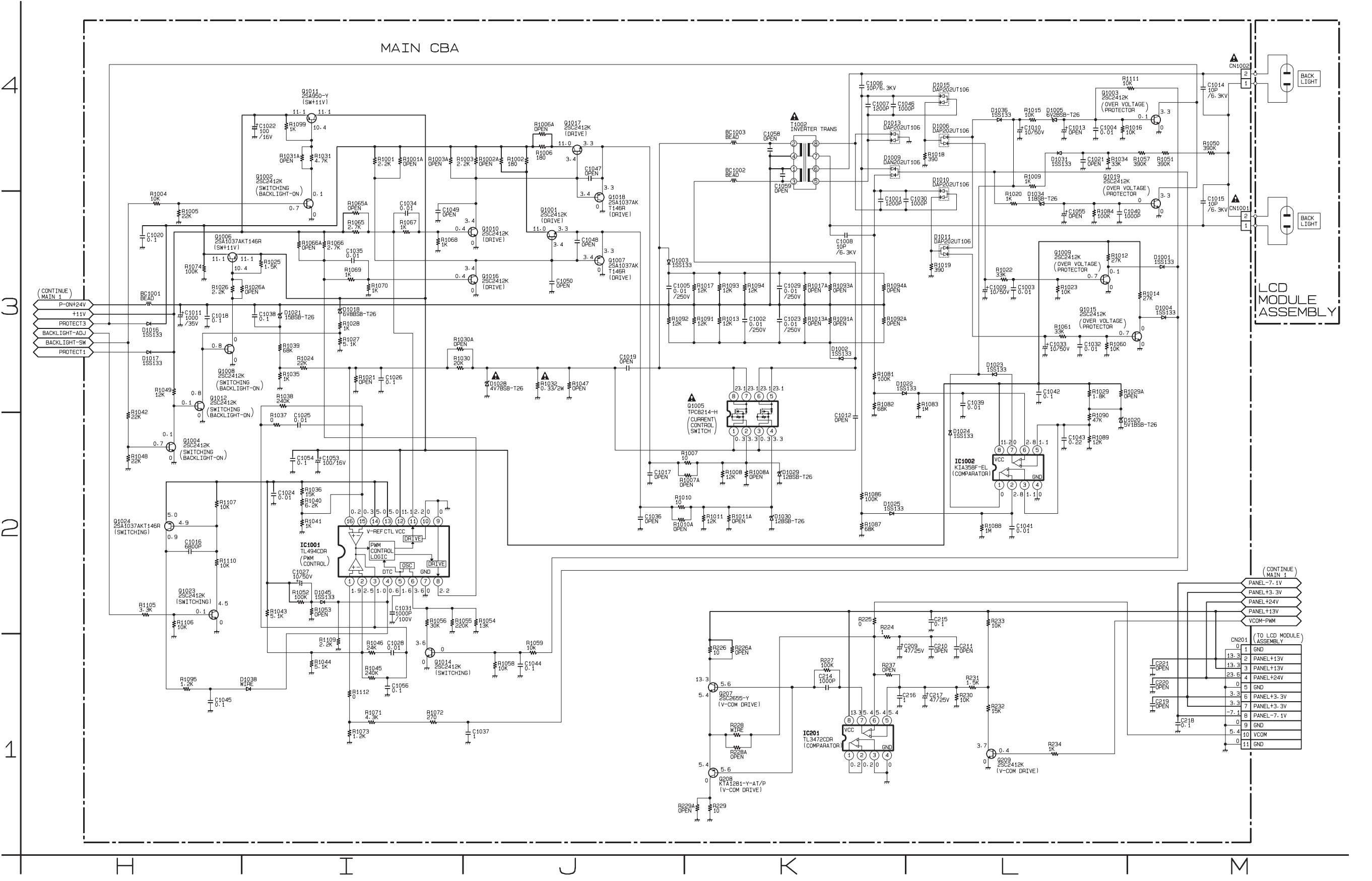
	Type 1	Type 2
IC631	KIA78R000ZF-RTF/P	PQ200WNA1ZPH
R646	1k $\Omega$	2.2k $\Omega$
R653	1.4k $\Omega$	330 $\Omega$



UNLESS OTHERWISE SPECIFIED:  
DIODES ARE 1SS133.

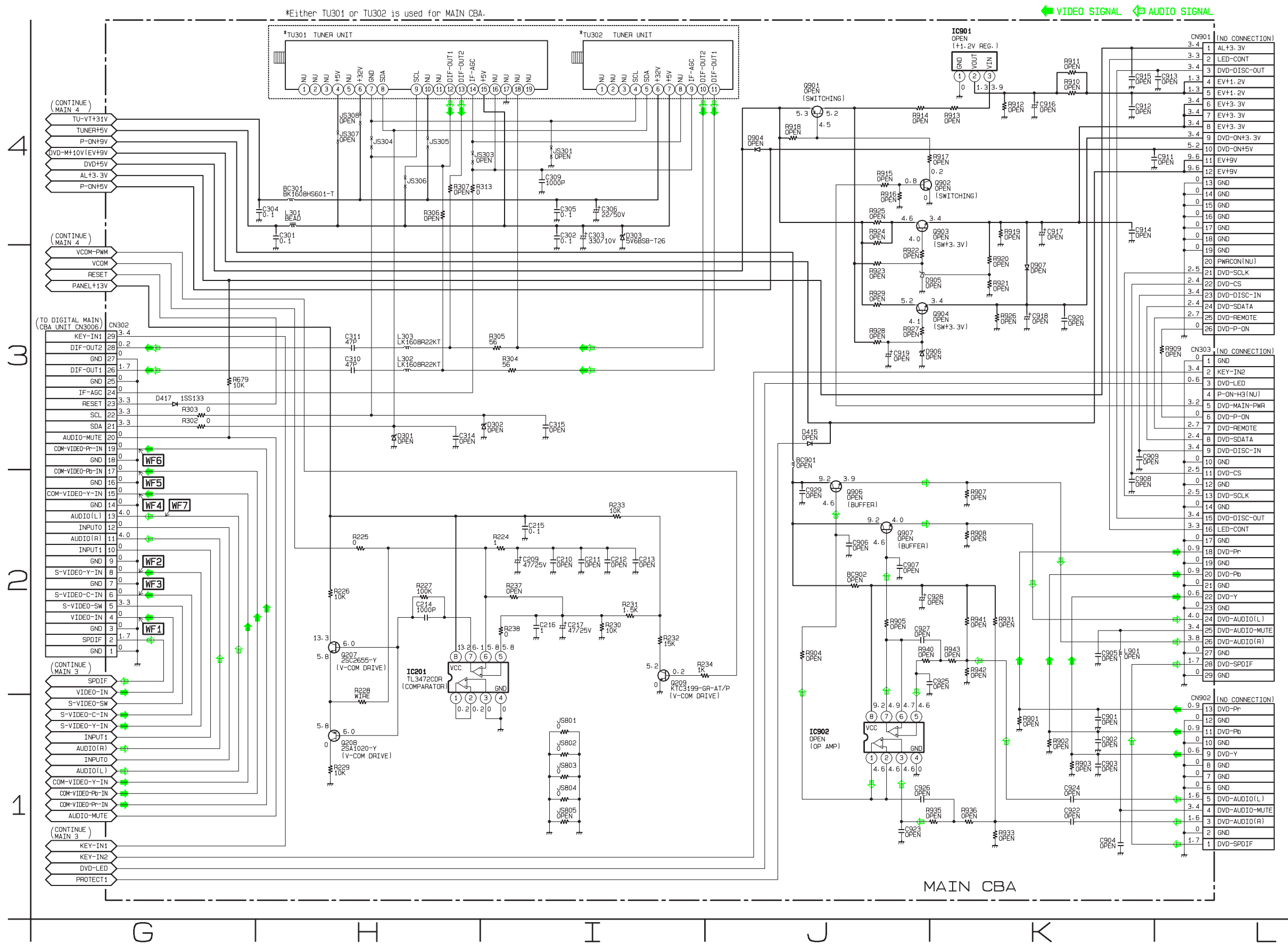


Main 2 Schematic Diagram [TYPE A]

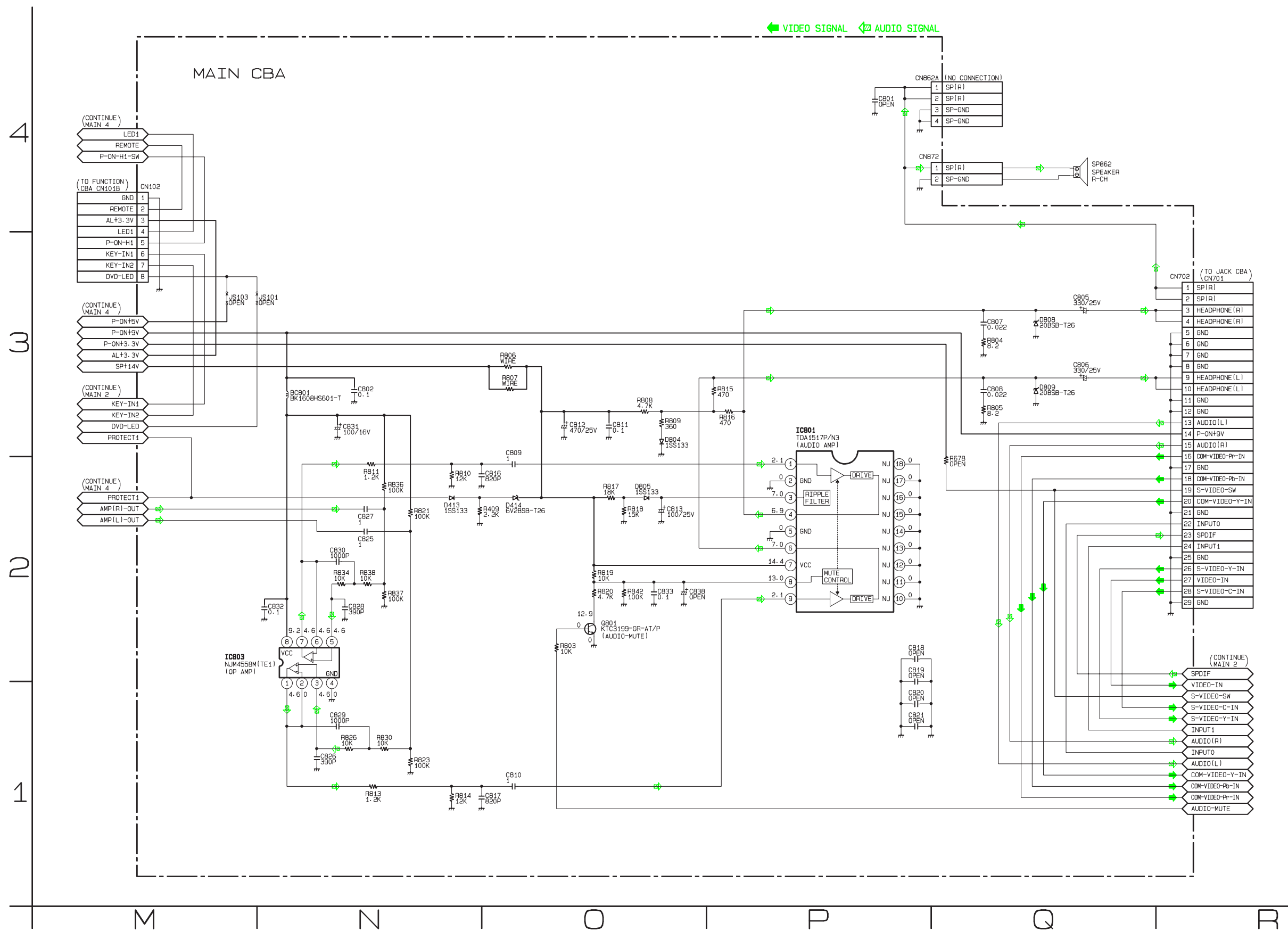




Main 2 Schematic Diagram [TYPE B]

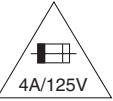


Main 3 Schematic Diagram [TYPE B]



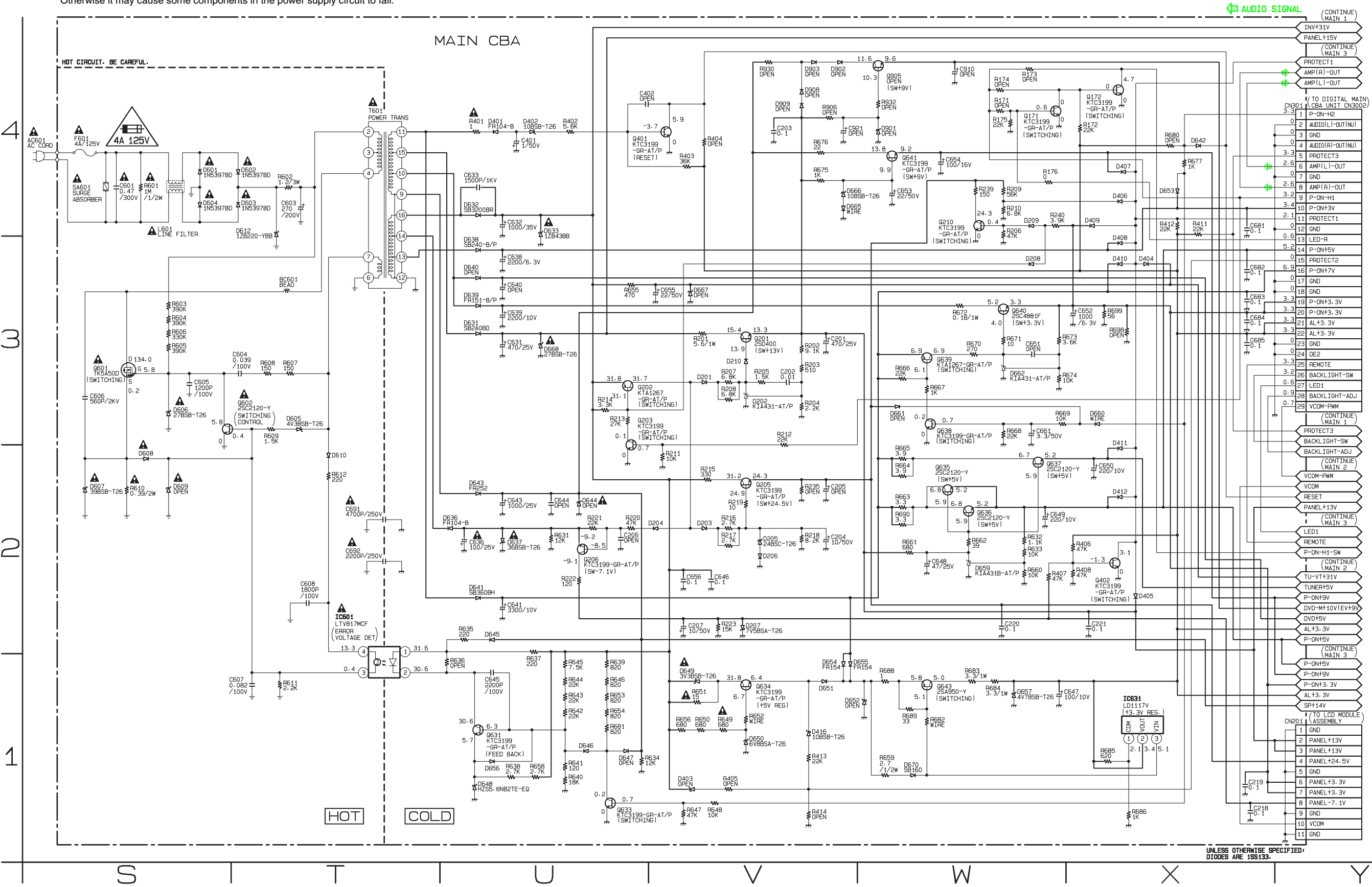
Main 4 Schematic Diagram [TYPE B]

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply  
circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

**NOTE:**  
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.



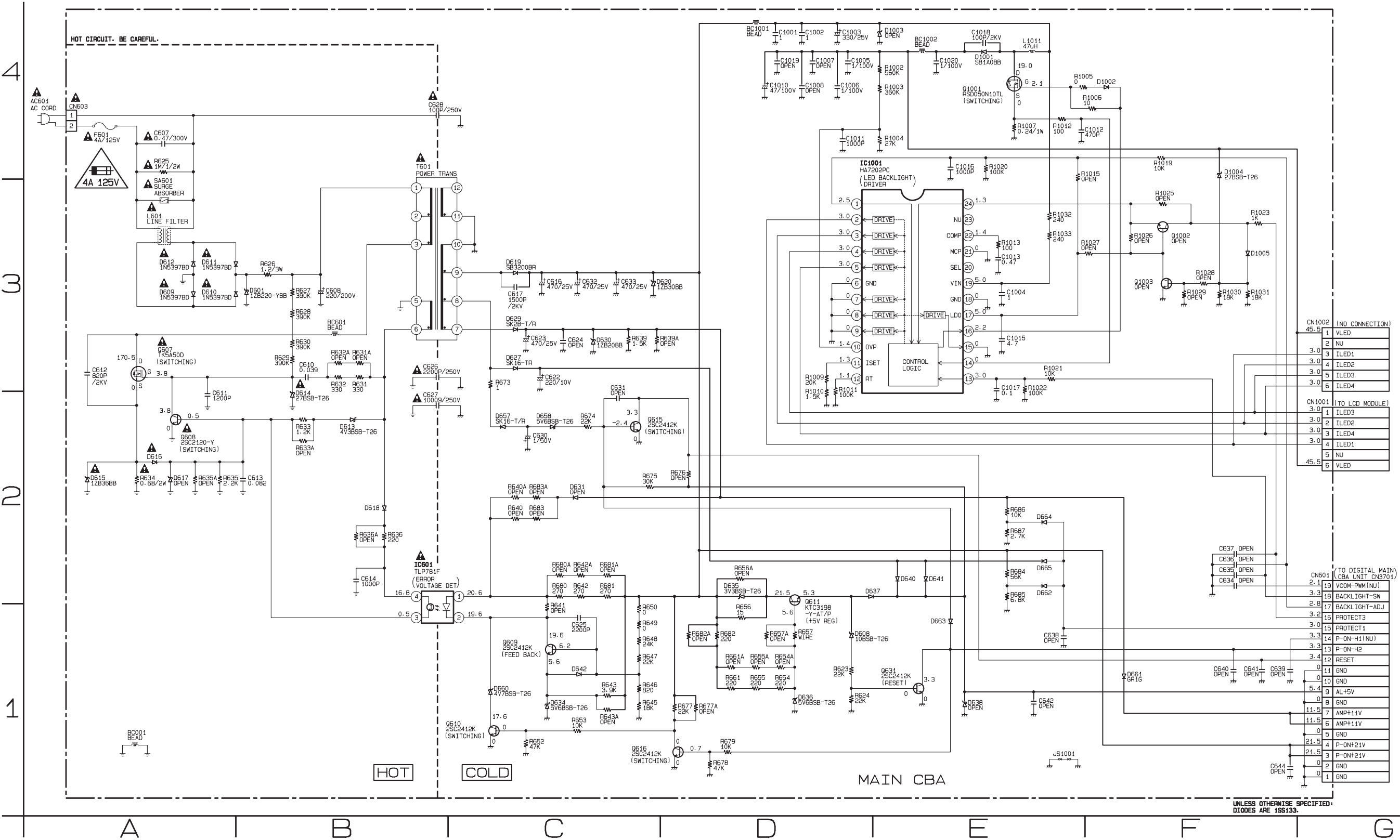


Main Schematic Diagram [TYPE C]

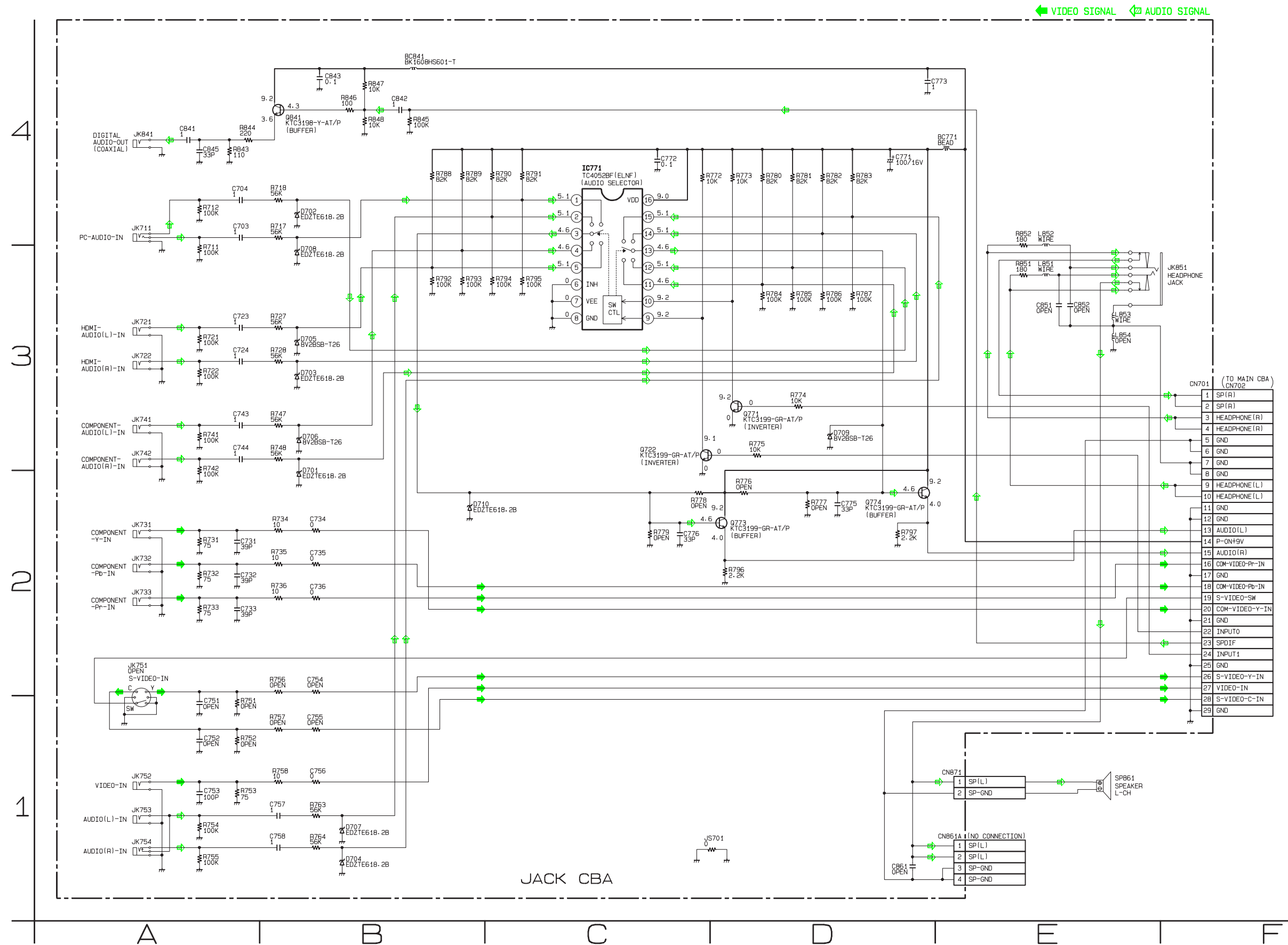
**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply  
circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

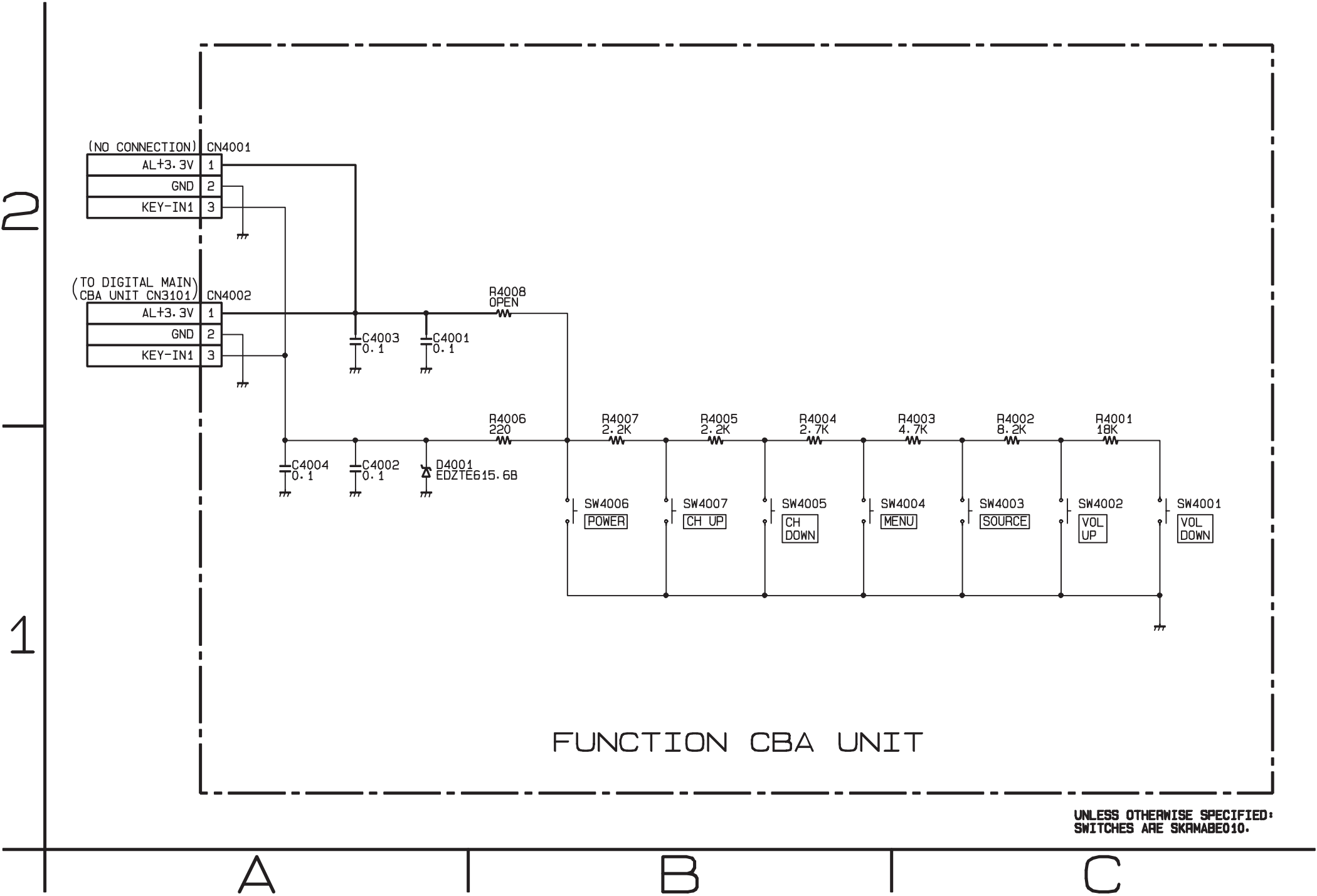
**NOTE:**  
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.



### Jack Schematic Diagram [TYPE B]

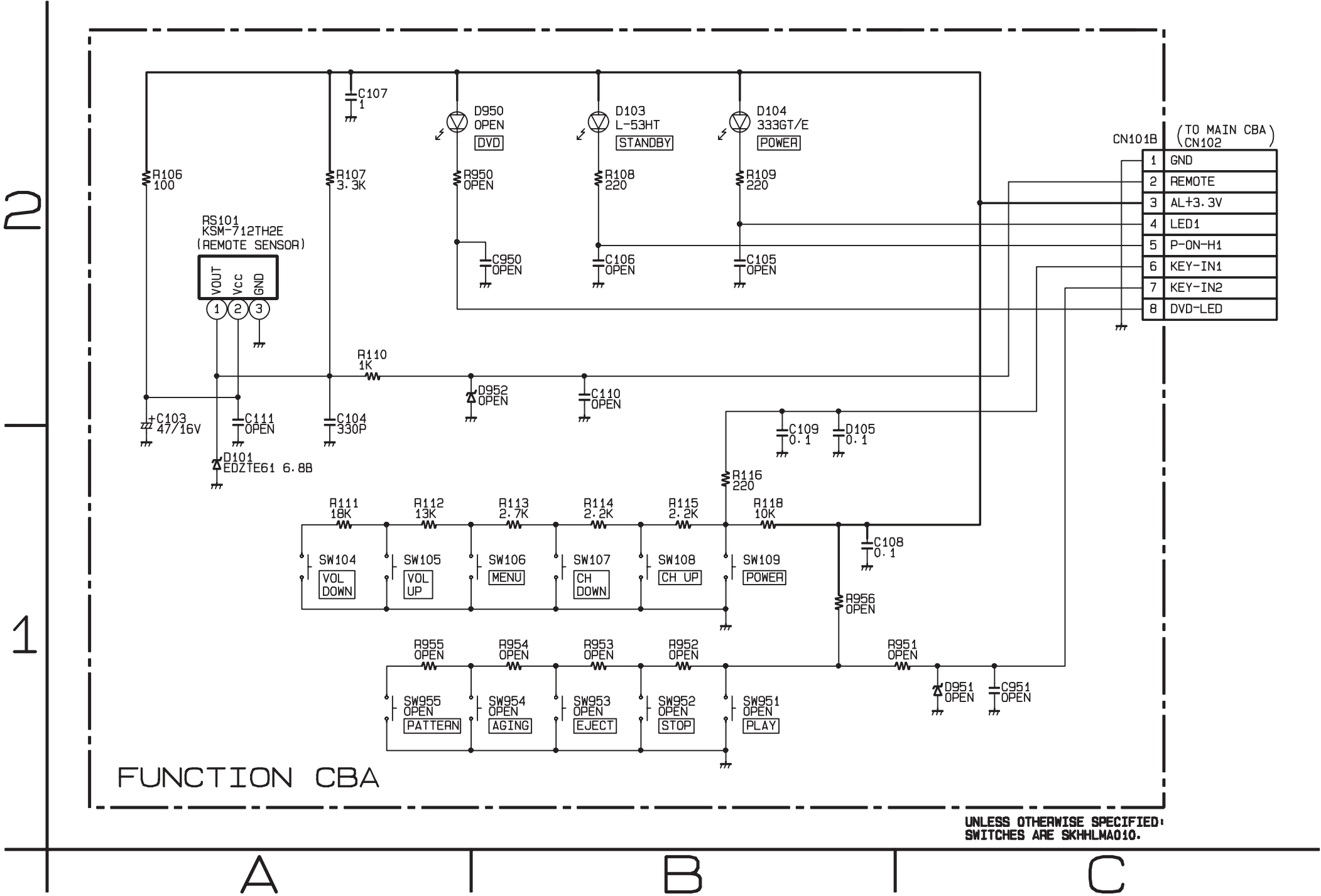


Function Schematic Diagram [TYPE A]

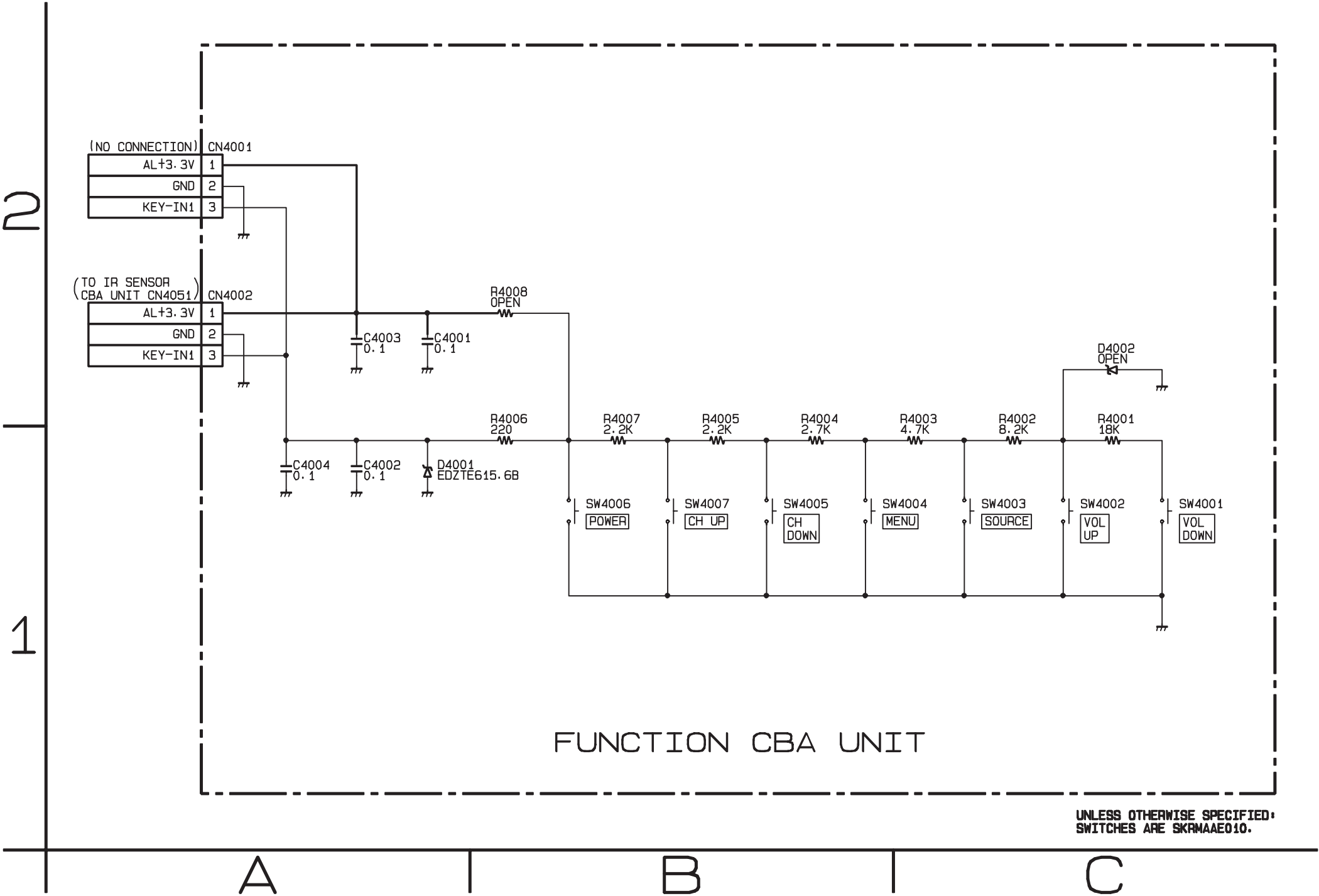




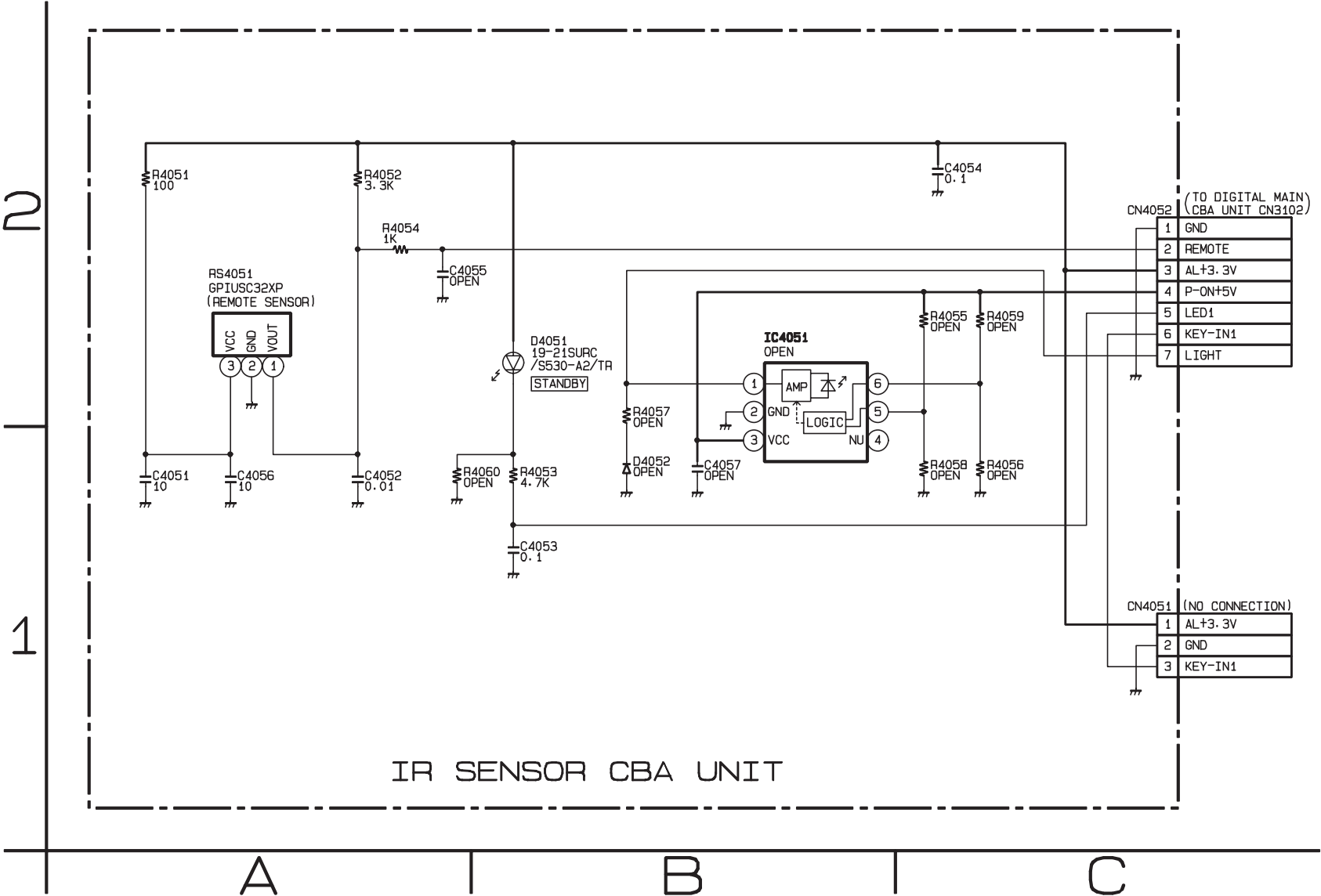
Function Schematic Diagram [TYPE B]



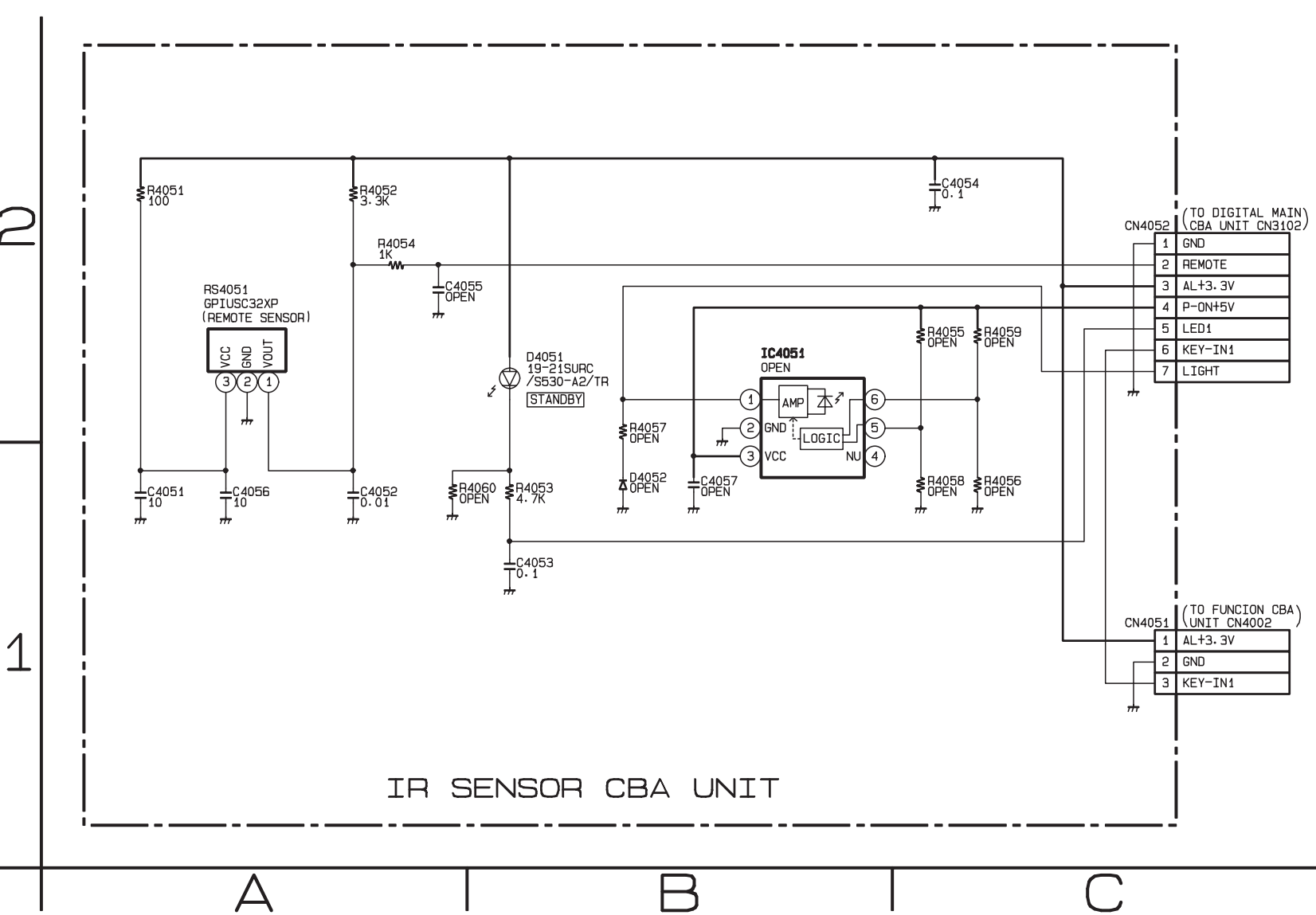
Function Schematic Diagram [TYPE C]



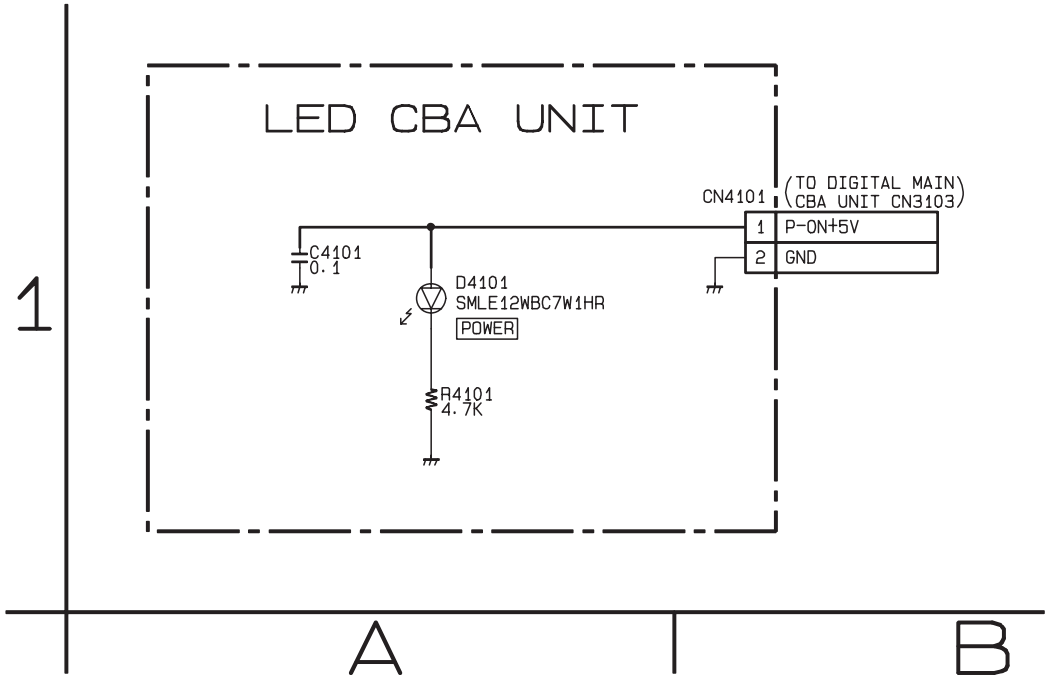
IR Sensor Schematic Diagram [TYPE A]



IR Sensor Schematic Diagram [TYPE C]



LED Schematic Diagram [TYPE C]



FL11.0SCIRC

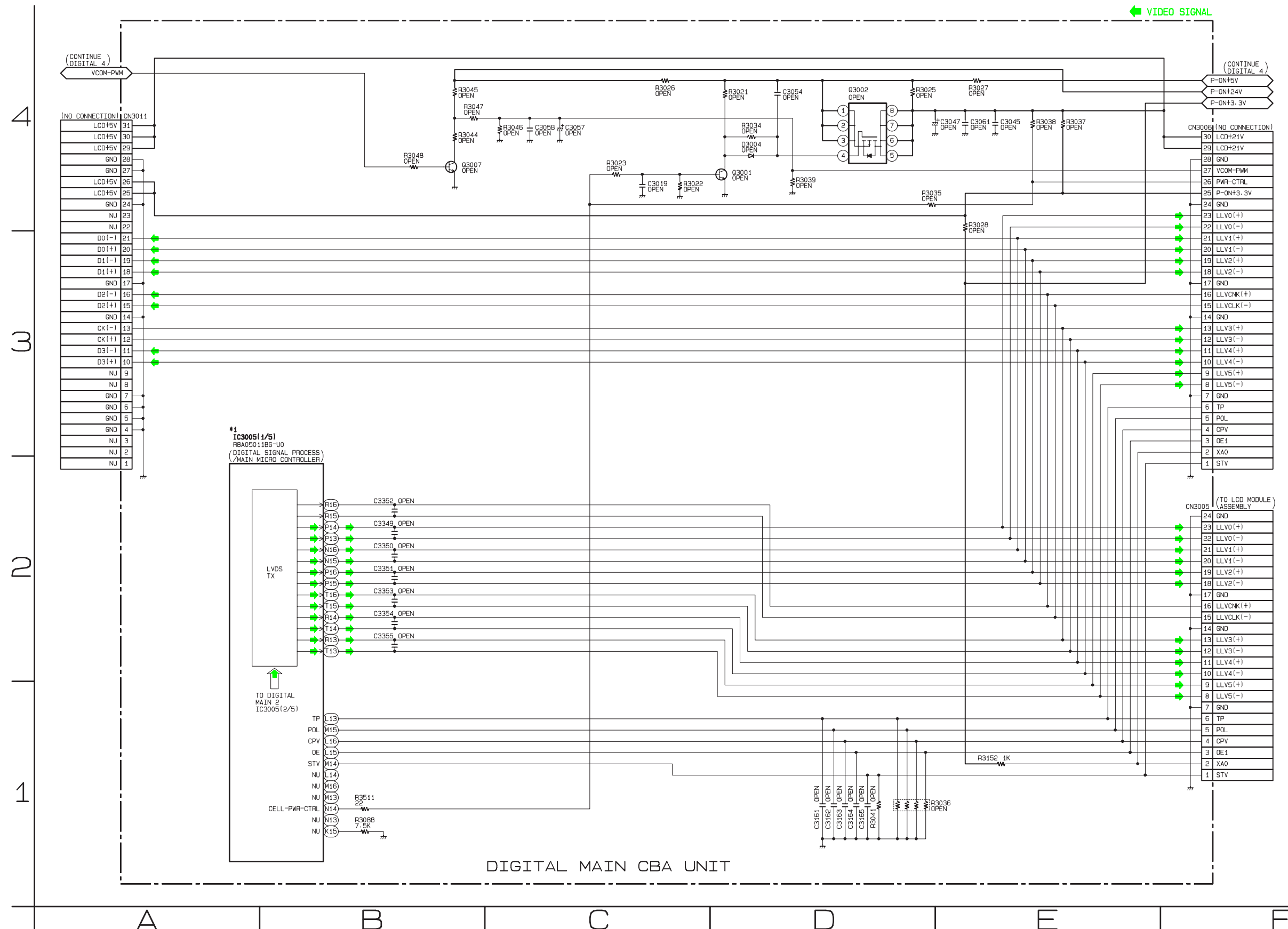
FL11.0SCLC

### Digital Main 1 Schematic Diagram [TYPE A]

**\*1 NOTE:**

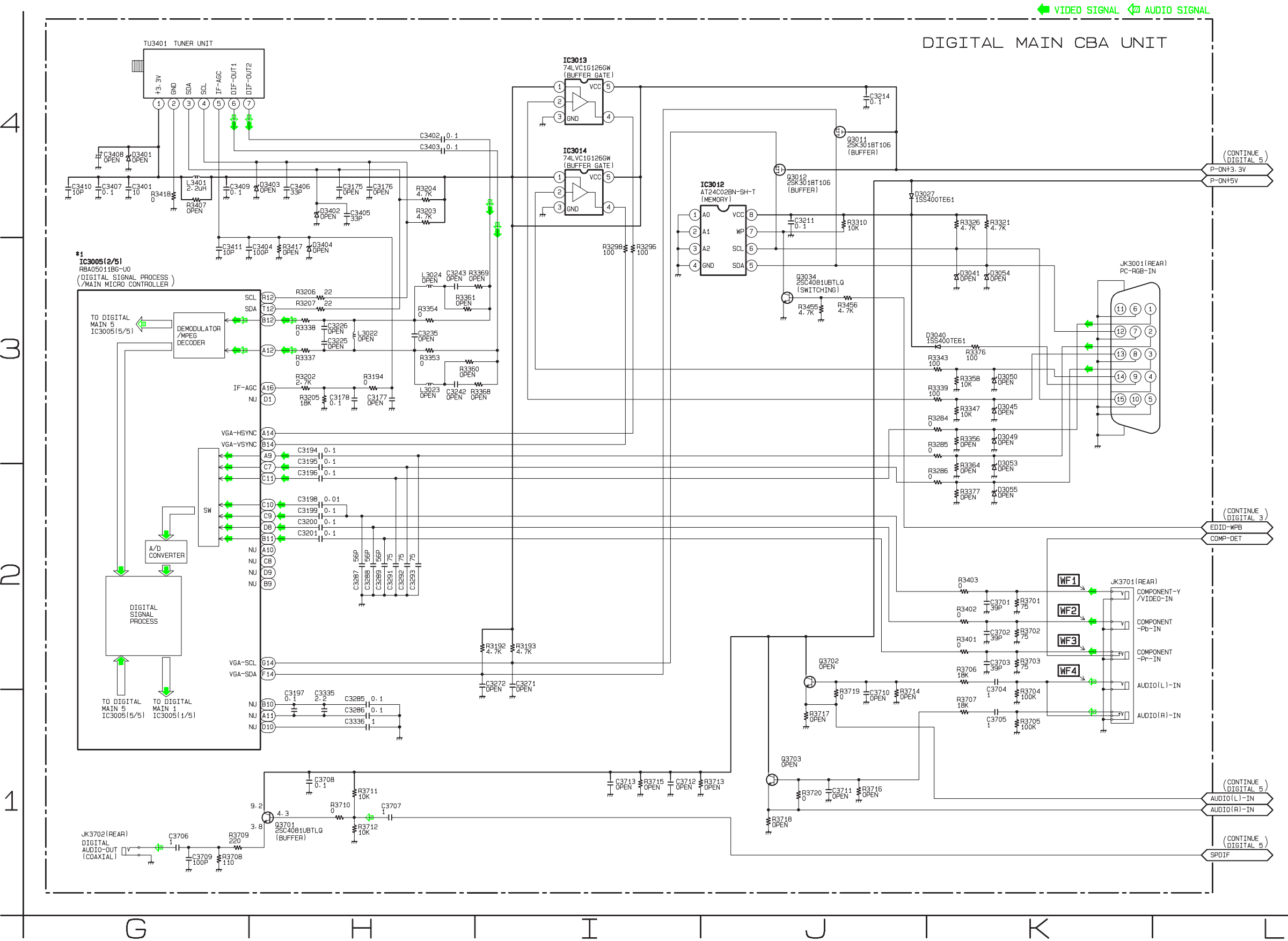
The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



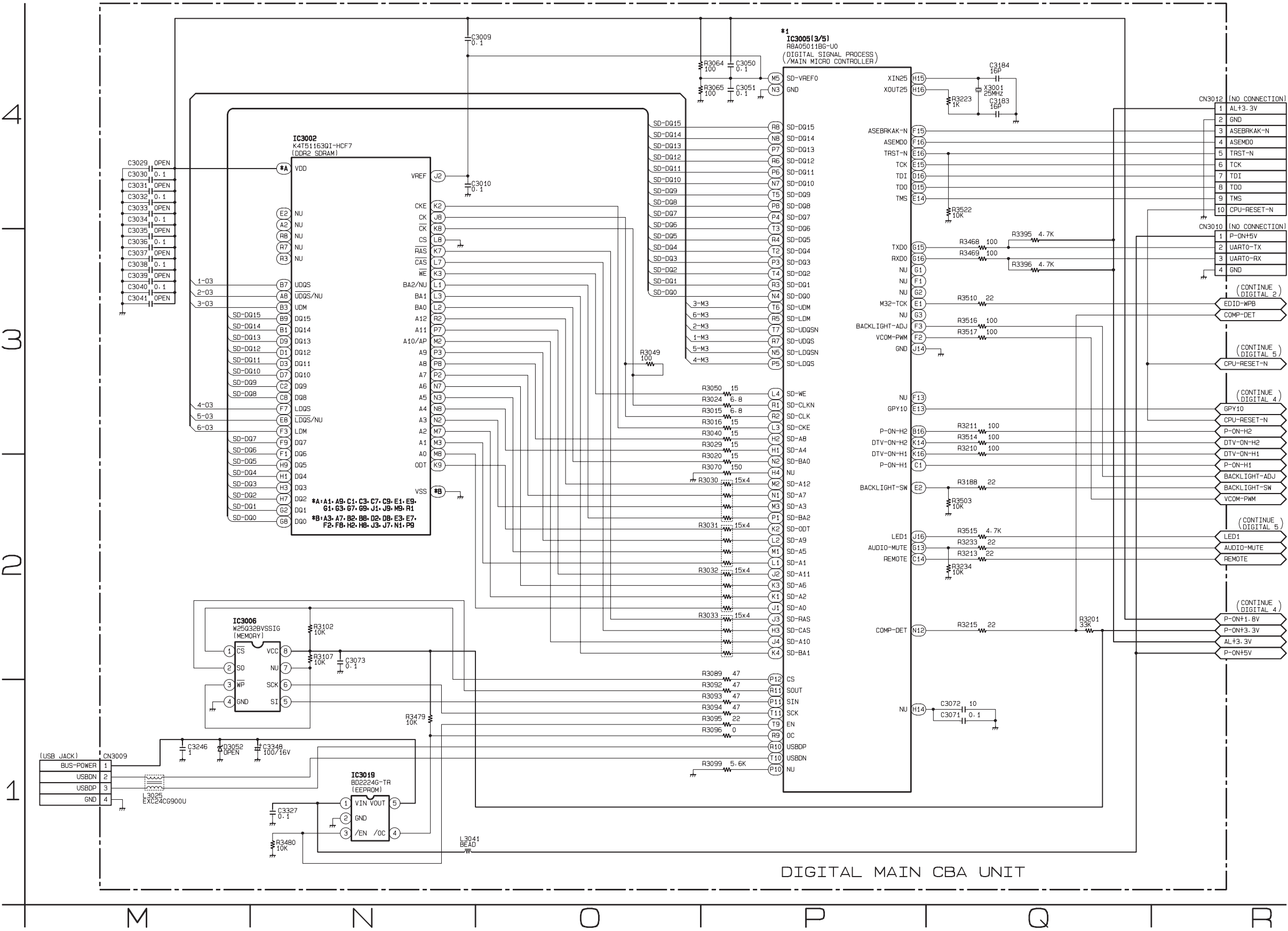
Digital Main 2 Schematic Diagram [TYPE A]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



Digital Main 3 Schematic Diagram [TYPE A]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.

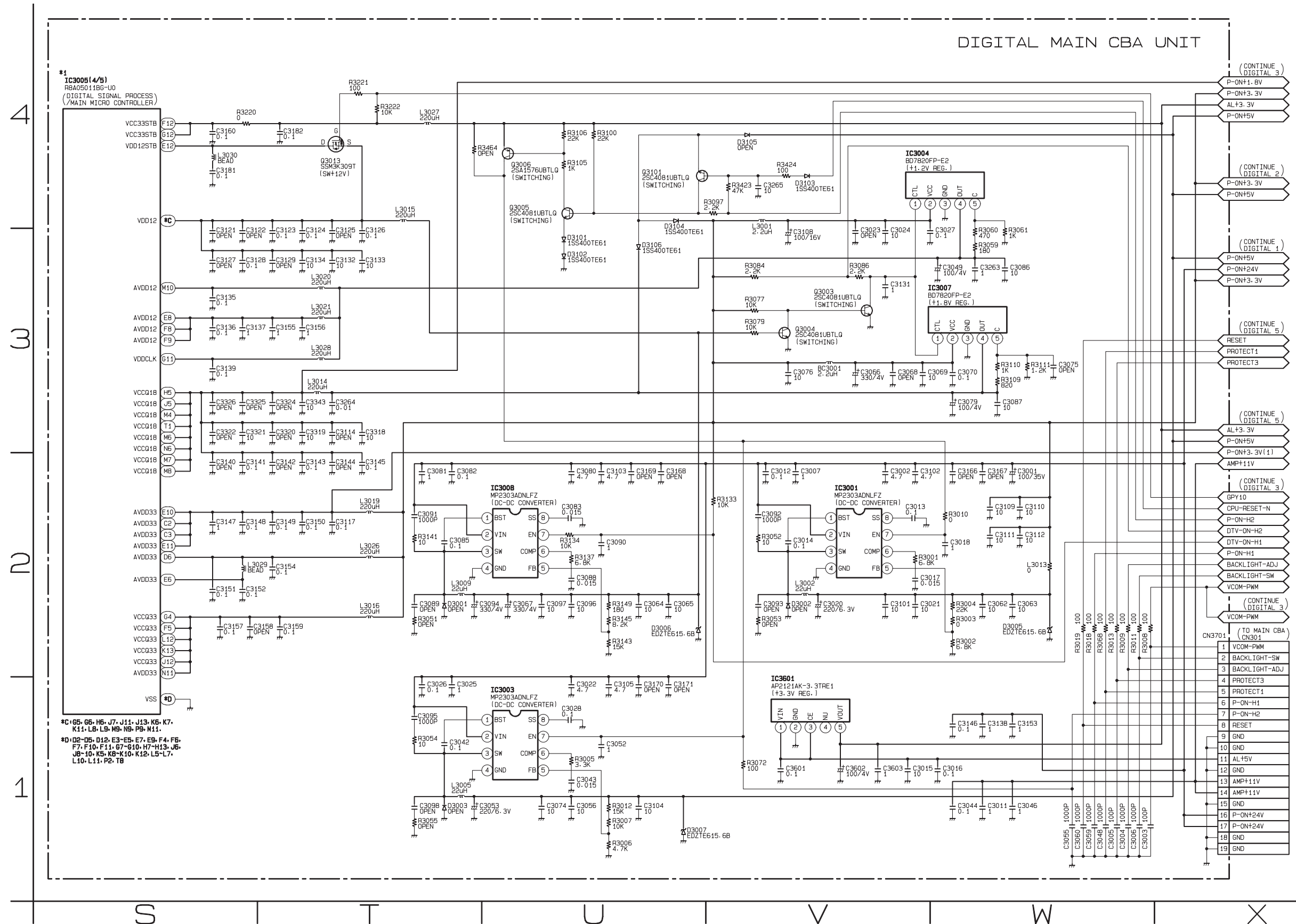


### Digital Main 4 Schematic Diagram [TYPE A]

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



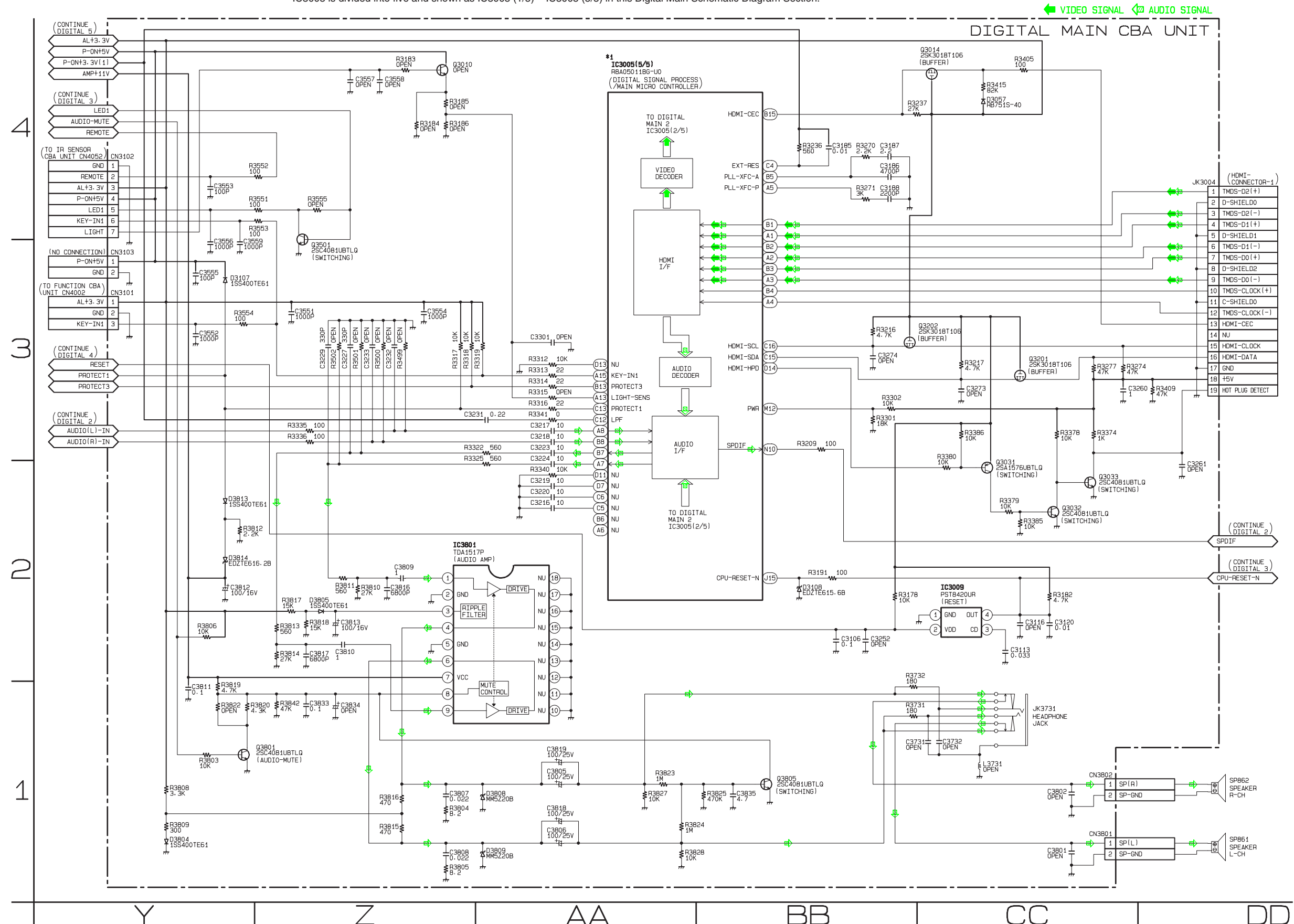


### Digital Main 5 Schematic Diagram [TYPE A]

**\*1 NOTE:**

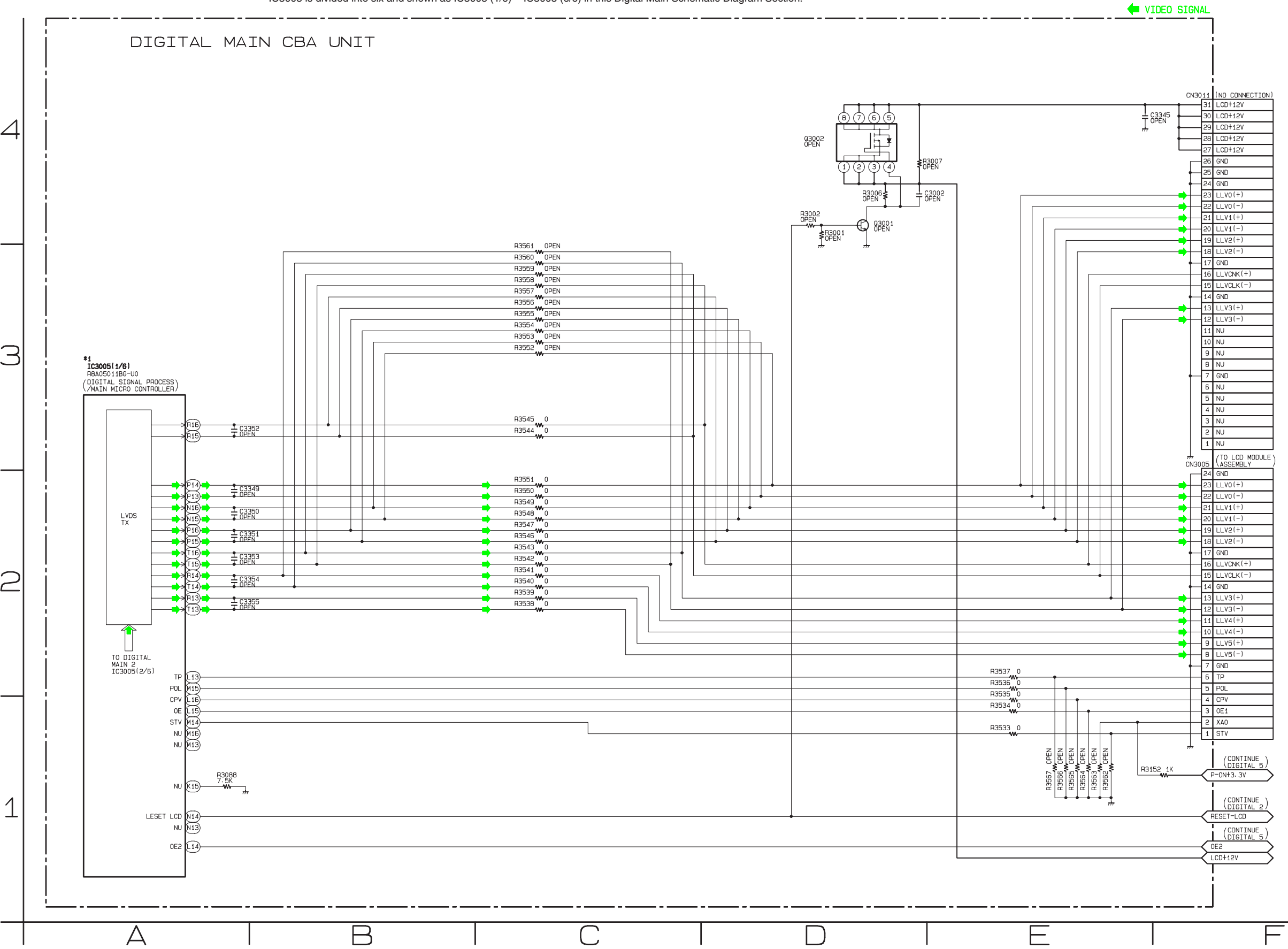
The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



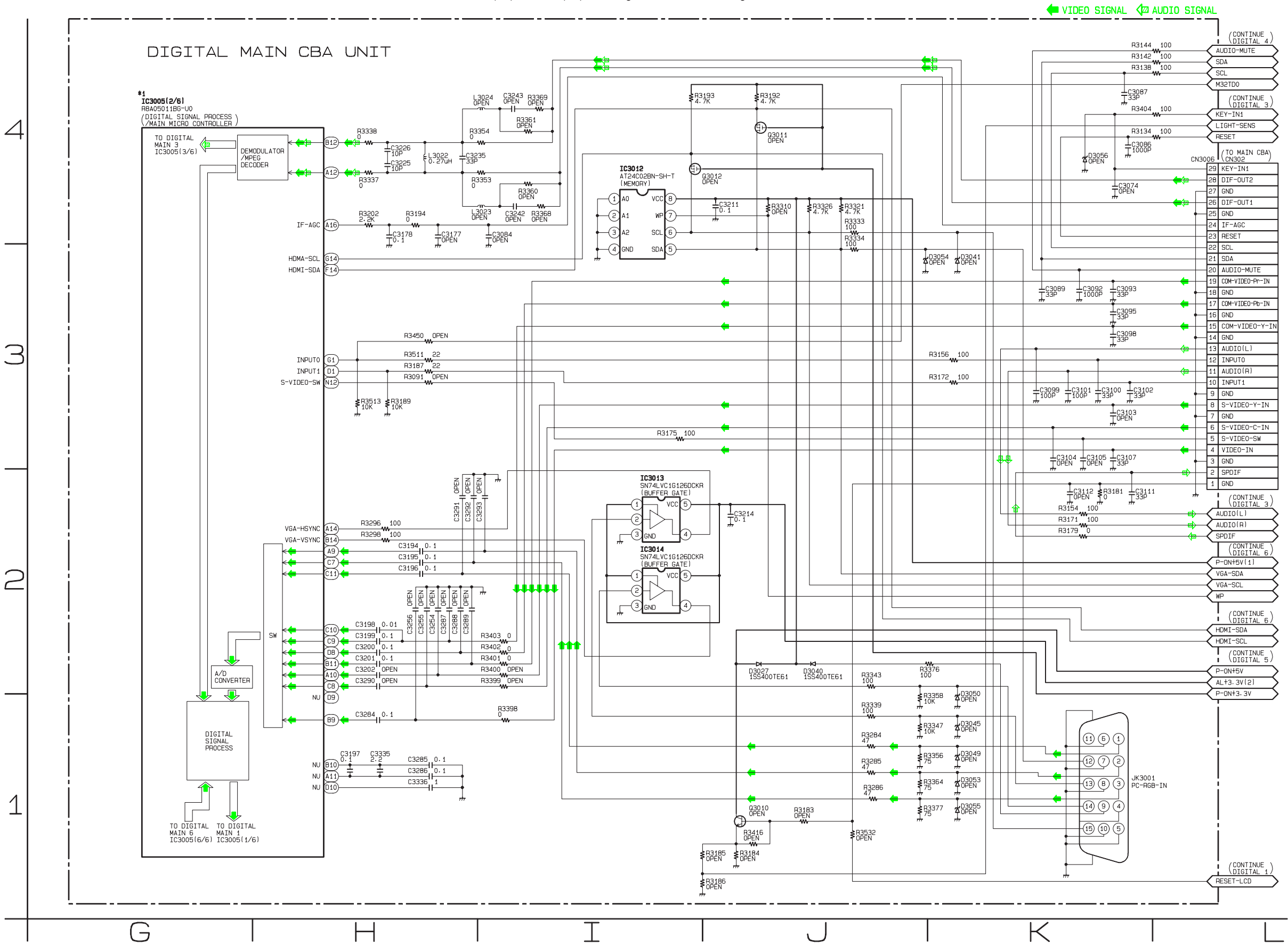
Digital Main 1 Schematic Diagram [TYPE B]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into six and shown as IC3005 (1/6) ~ IC3005 (6/6) in this Digital Main Schematic Diagram Section.



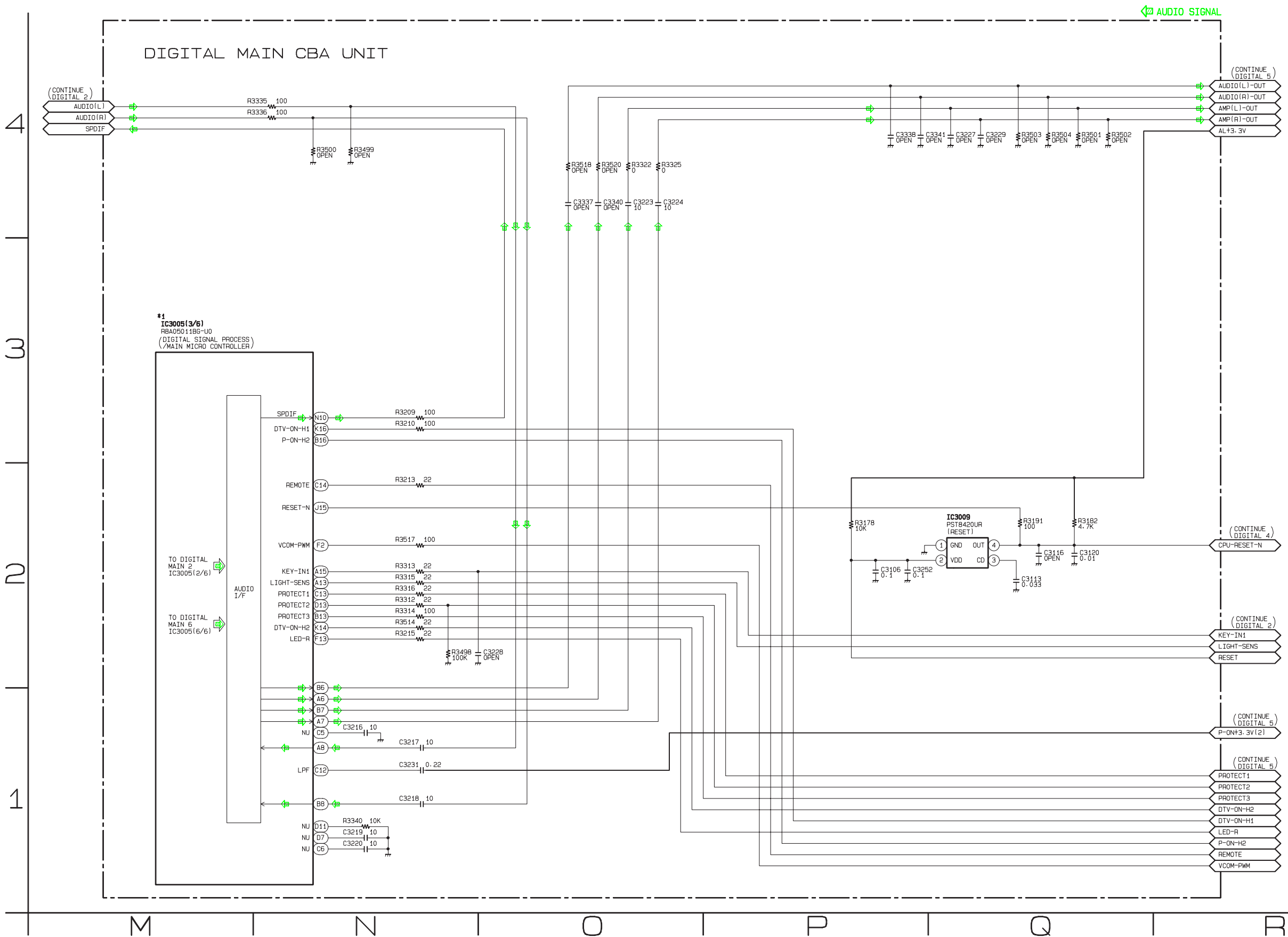
Digital Main 2 Schematic Diagram [TYPE B]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into six and shown as IC3005 (1/6) ~ IC3005 (6/6) in this Digital Main Schematic Diagram Section.



Digital Main 3 Schematic Diagram [TYPE B]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into six and shown as IC3005 (1/6) ~ IC3005 (6/6) in this Digital Main Schematic Diagram Section.



## 4

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3



1



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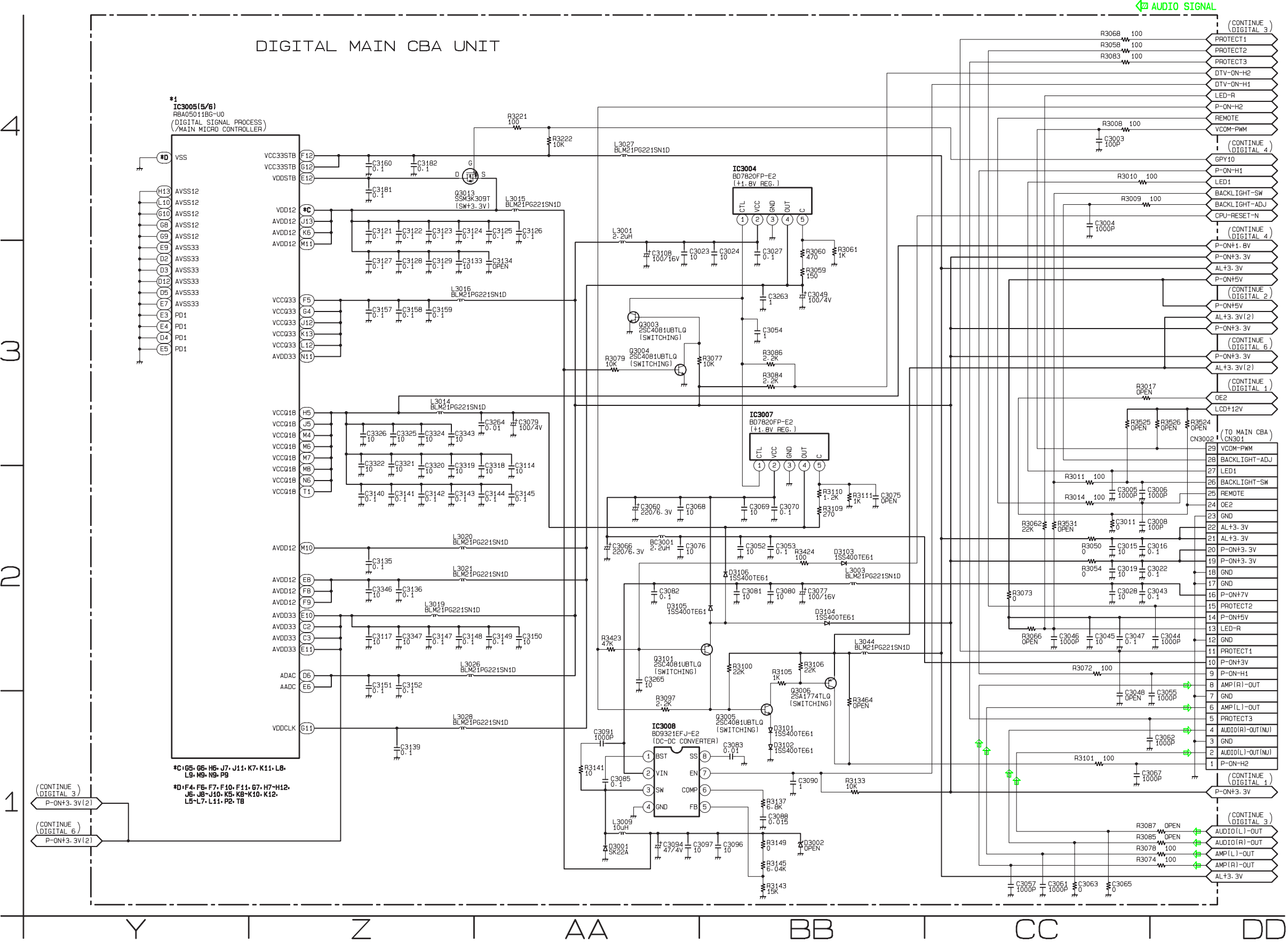
W

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X

Digital Main 5 Schematic Diagram [TYPE B]

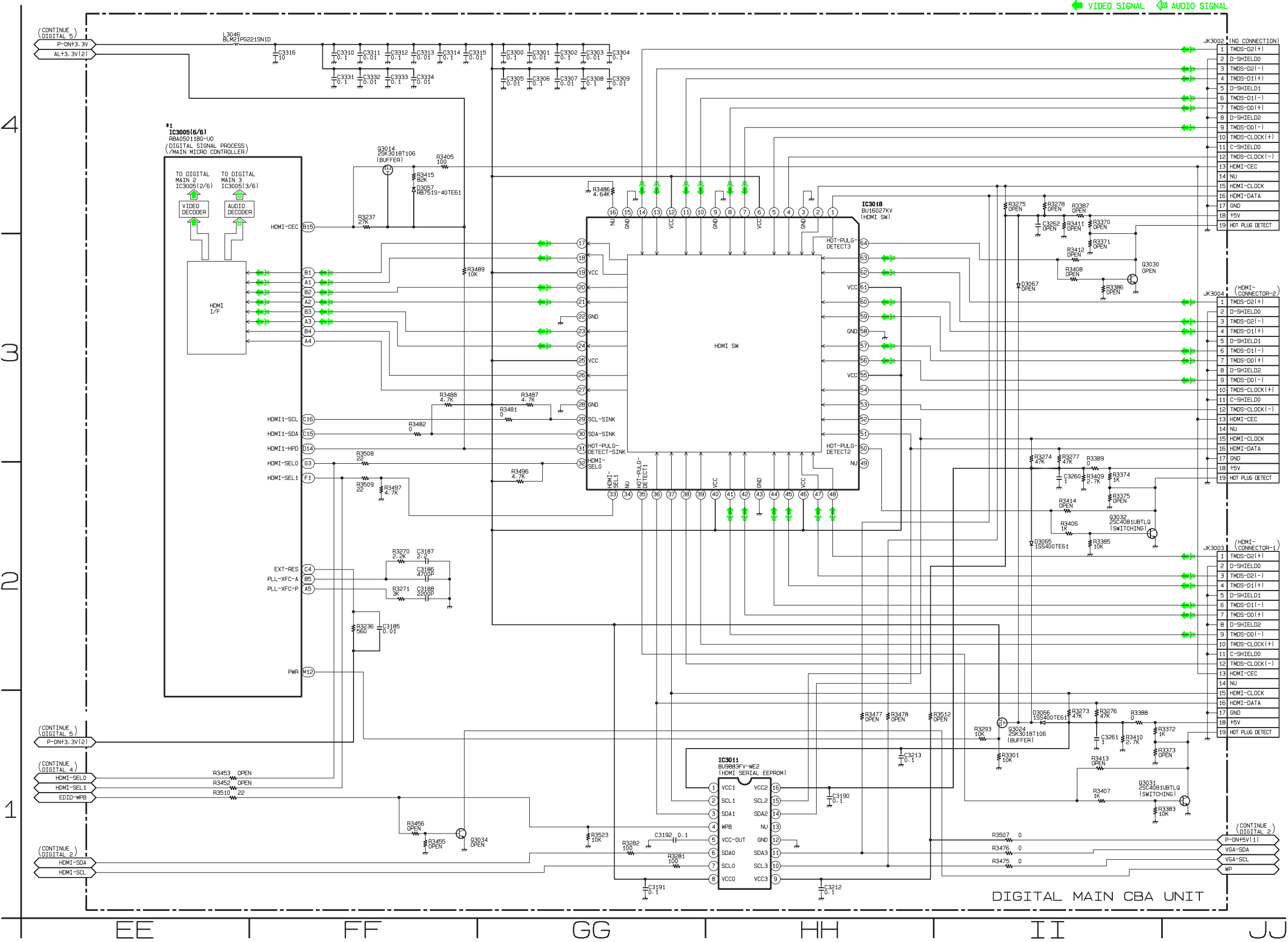
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into six and shown as IC3005 (1/6) ~ IC3005 (6/6) in this Digital Main Schematic Diagram Section.





Digital Main 6 Schematic Diagram [TYPE B]

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3005.  
IC3005 is divided into six and shown as IC3005 (1/6) ~ IC3005 (6/6) in this Digital Main Schematic Diagram Section.

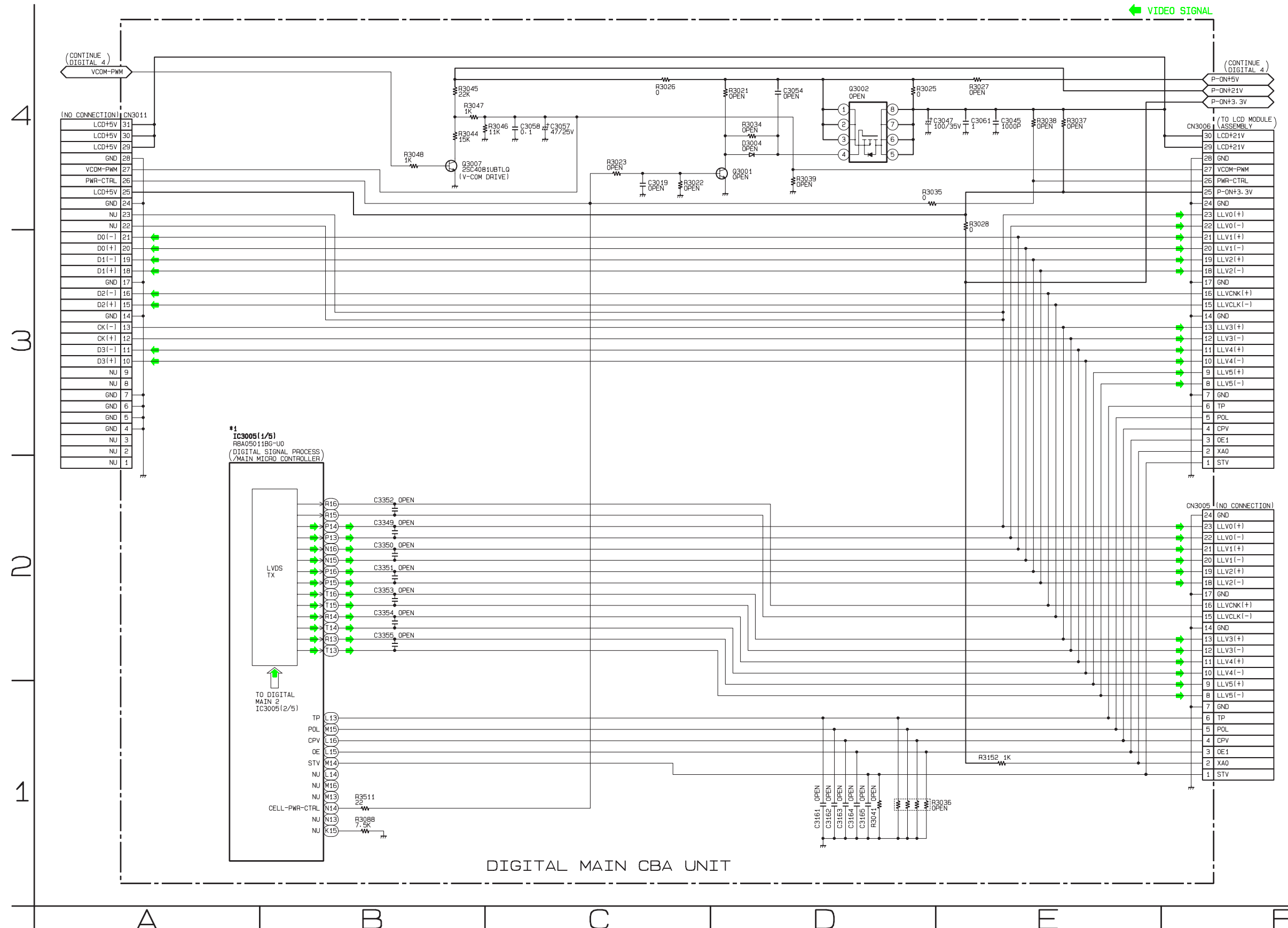


### Digital Main 1 Schematic Diagram [TYPE C]

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



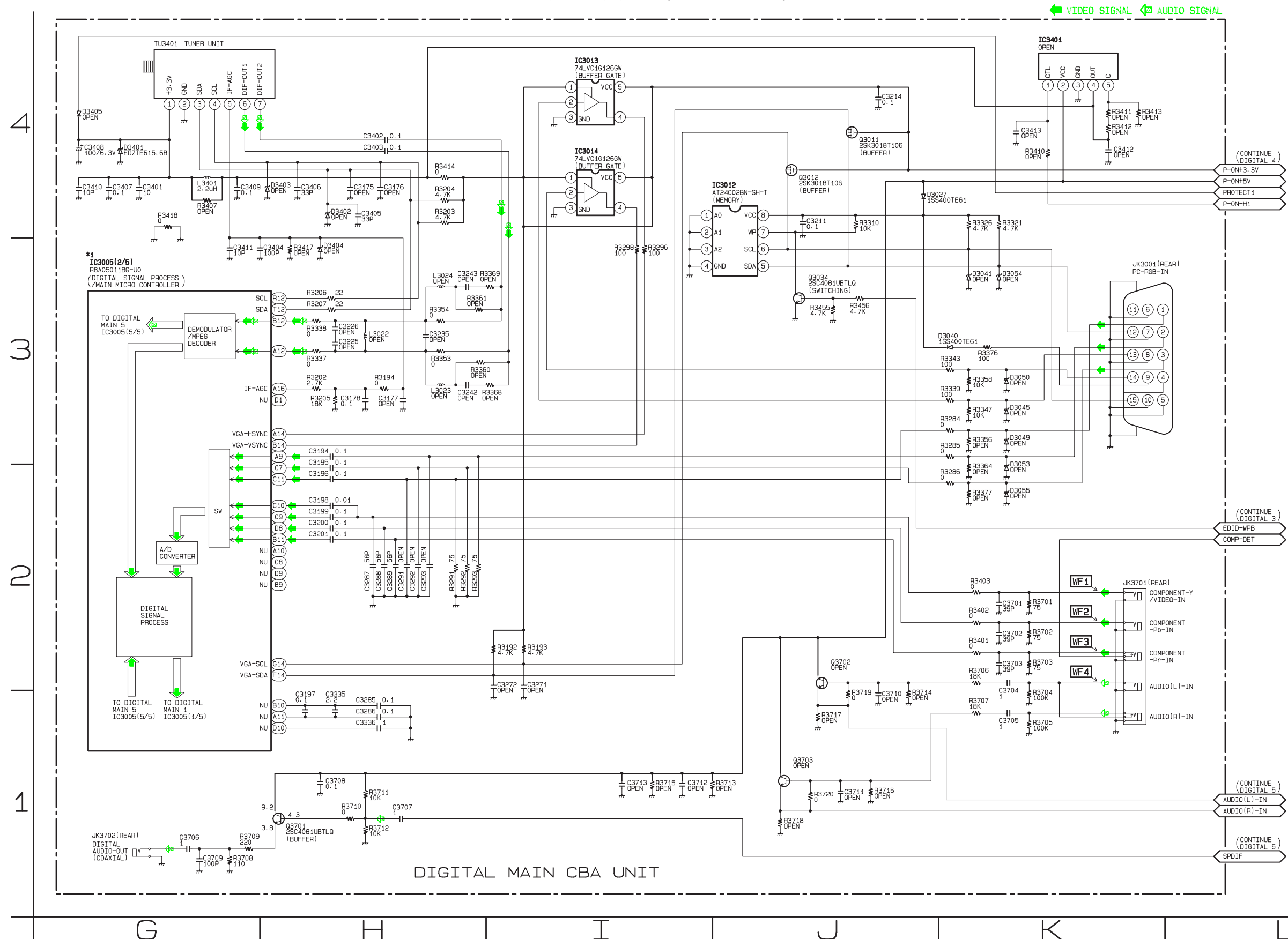


## Digital Main 2 Schematic Diagram [TYPE C]

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.



1

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.

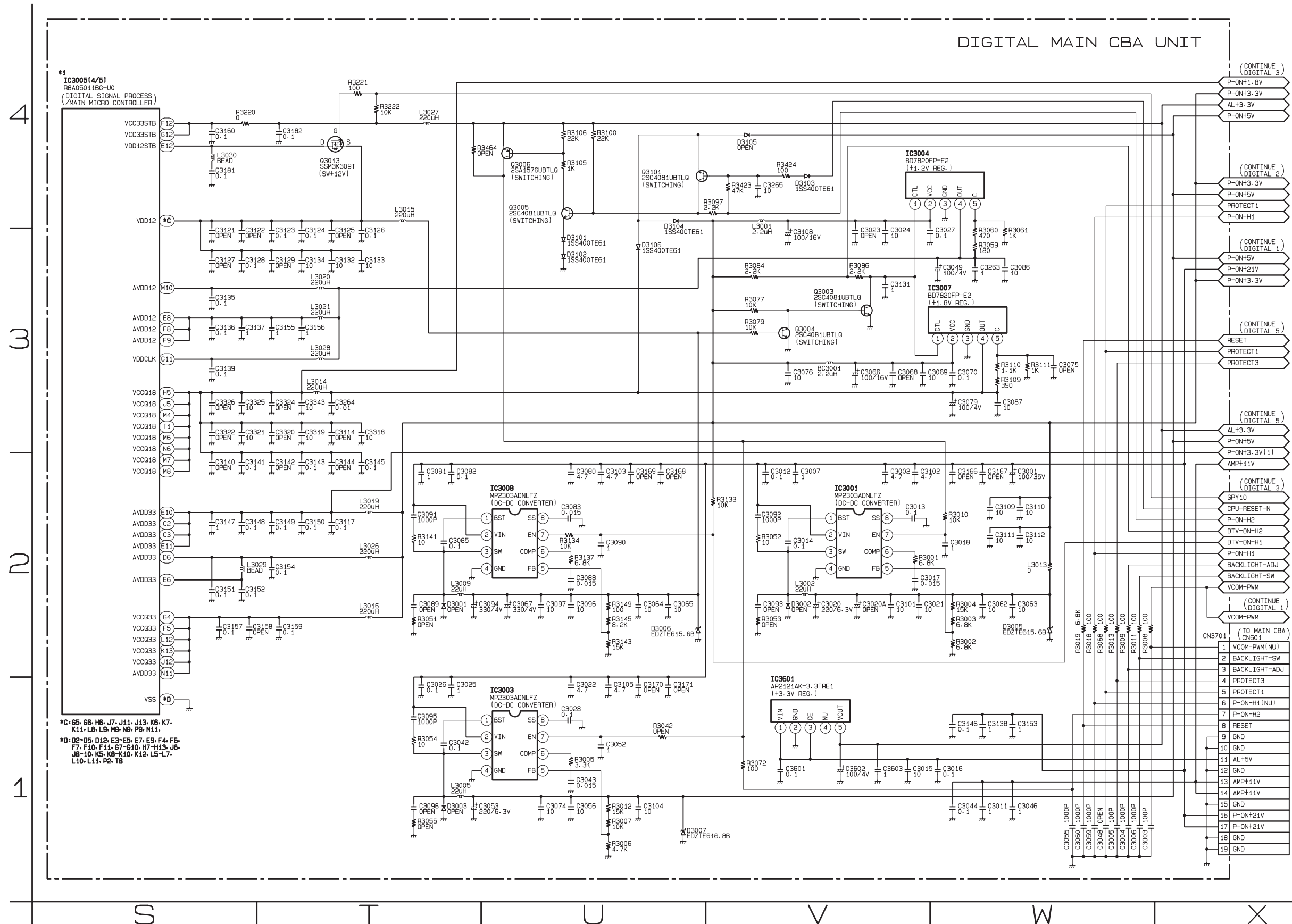


### Digital Main 4 Schematic Diagram [TYPE C]

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.

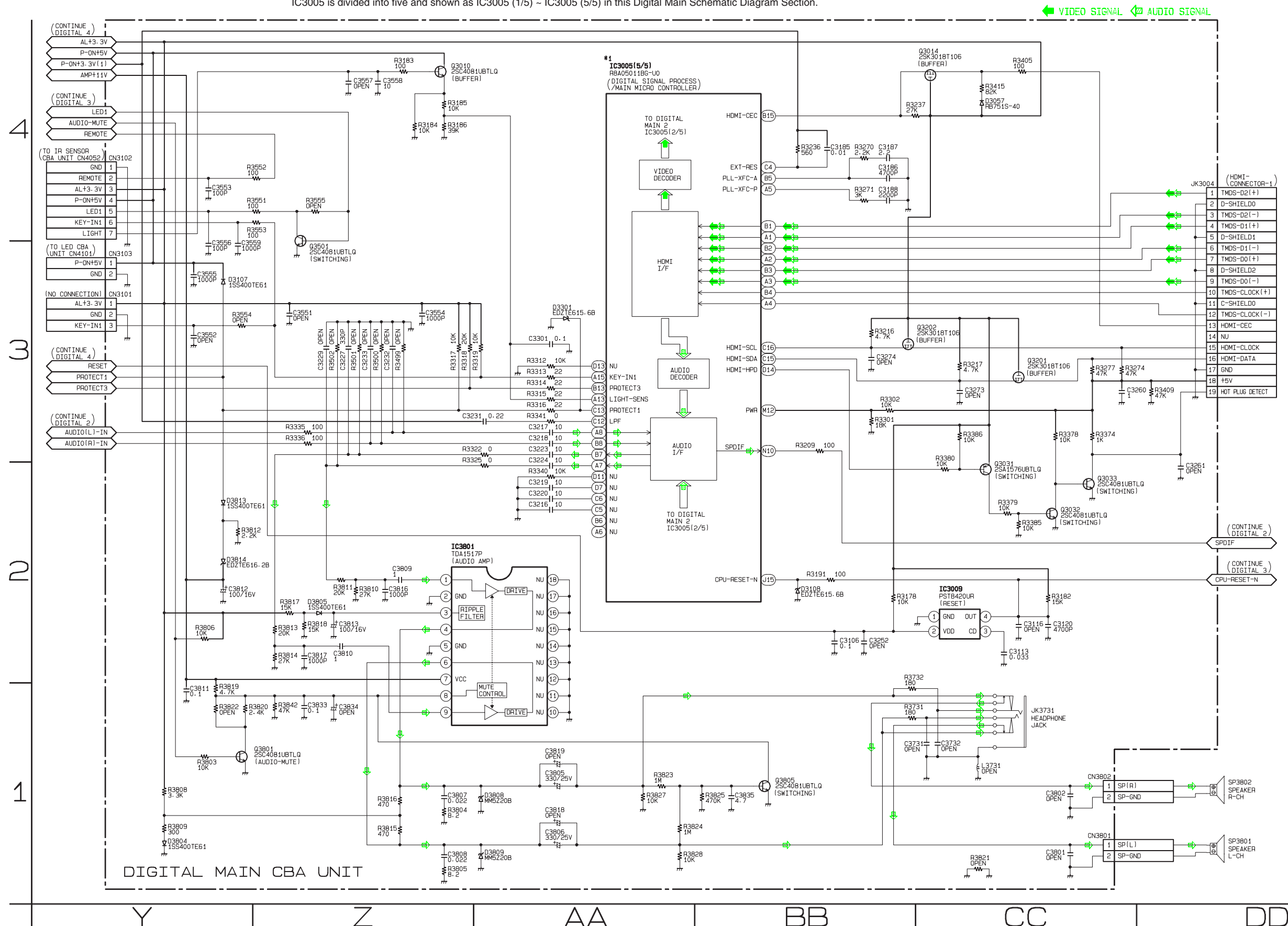


### Digital Main 5 Schematic Diagram [TYPE C]

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3005.

IC3005 is divided into five and shown as IC3005 (1/5) ~ IC3005 (5/5) in this Digital Main Schematic Diagram Section.

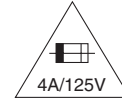




### Main CBA Top View [TYPE A]

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



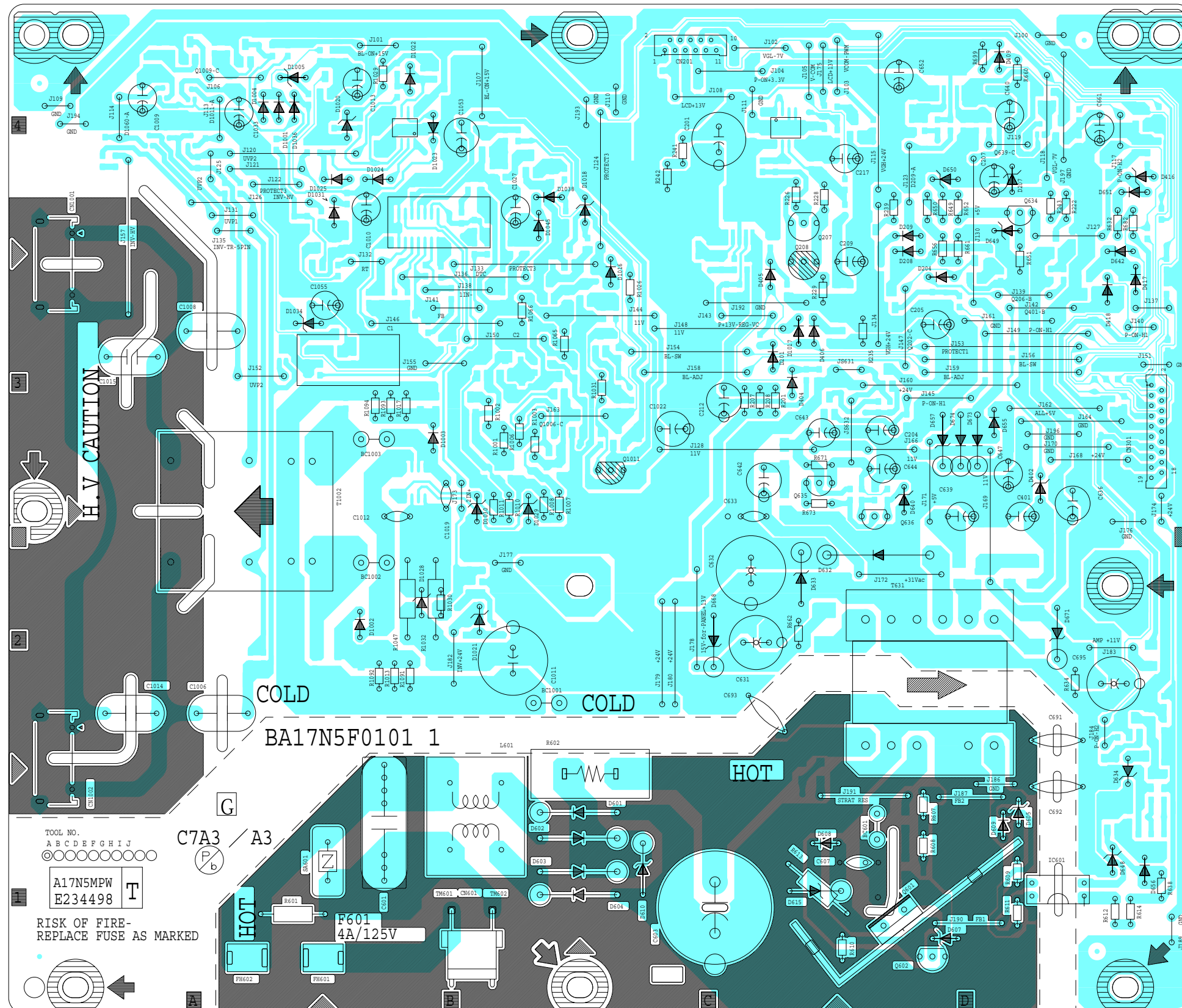
**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing. Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

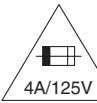
**NOTE:**

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Main CBA Bottom View [TYPE A]

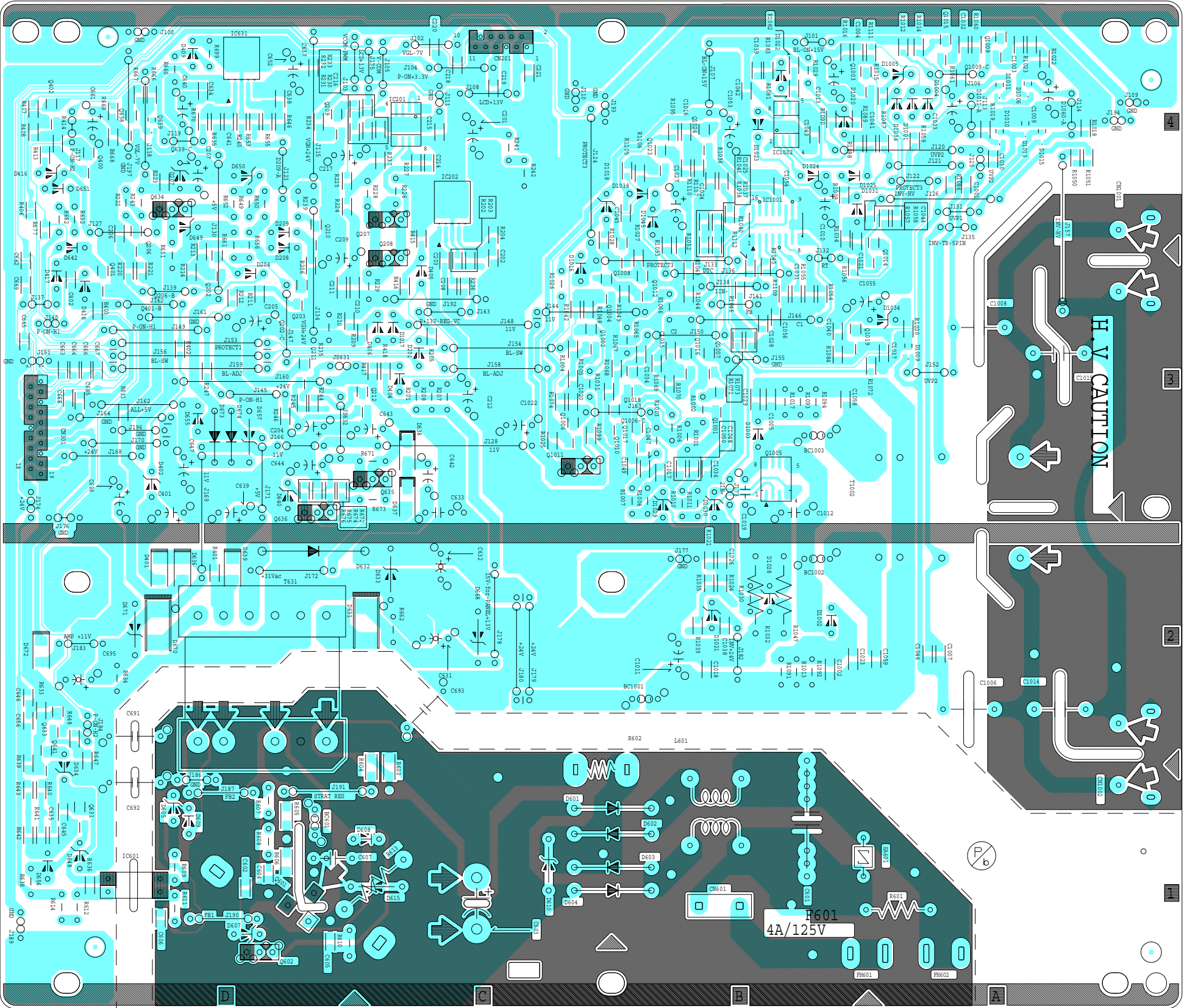
**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

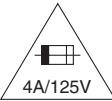
**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.





Main CBA Top View [TYPE B]

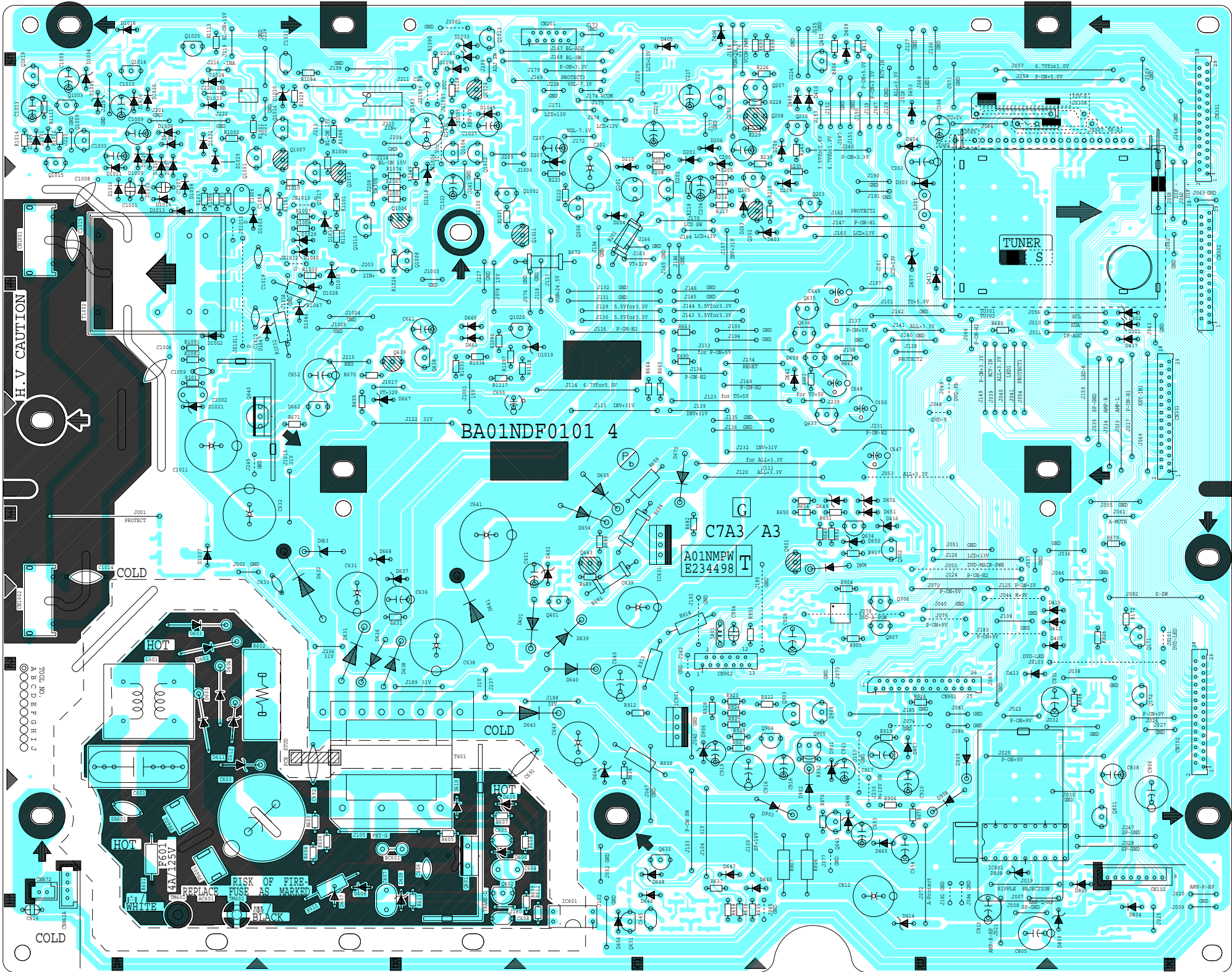
**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply  
circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply  
circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly,  
when troubleshooting this type of power supply circuit,  
a variable isolation transformer is required.

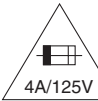
**NOTE:**  
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.





Main CBA Bottom View [TYPE B]

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply  
circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

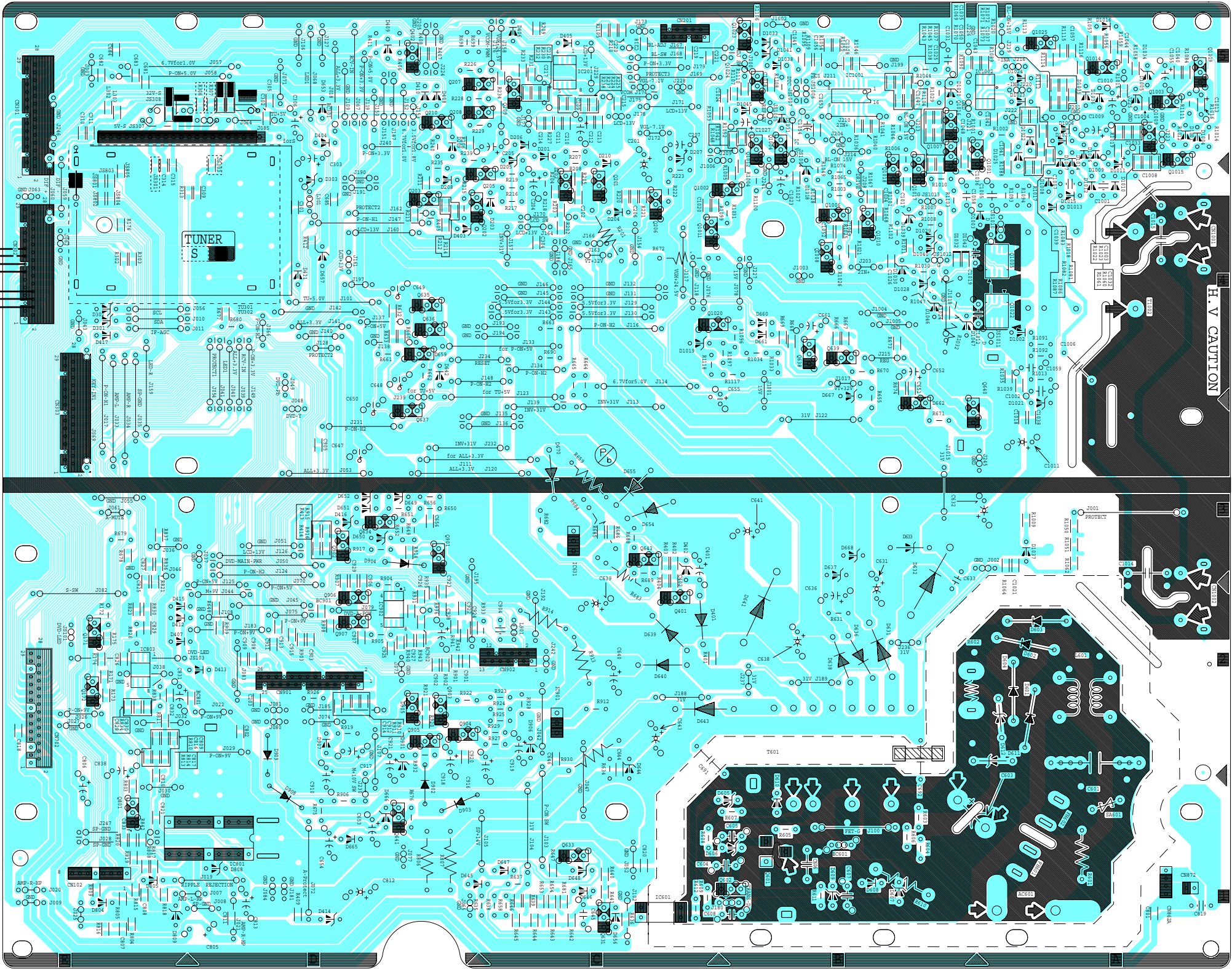


**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply  
circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly,  
when troubleshooting this type of power supply circuit,  
a variable isolation transformer is required.

**NOTE:**  
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.

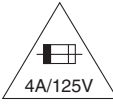
- WF6**  
PIN 19 OF  
CN302
- WF5**  
PIN 17 OF  
CN302
- WF4**  
PIN 15 OF  
CN302
- WF7**  
PIN 13 OF  
CN302
- WF2**  
PIN 8 OF  
CN302
- WF3**  
PIN 6 OF  
CN302
- WF1**  
PIN 4 OF  
CN302





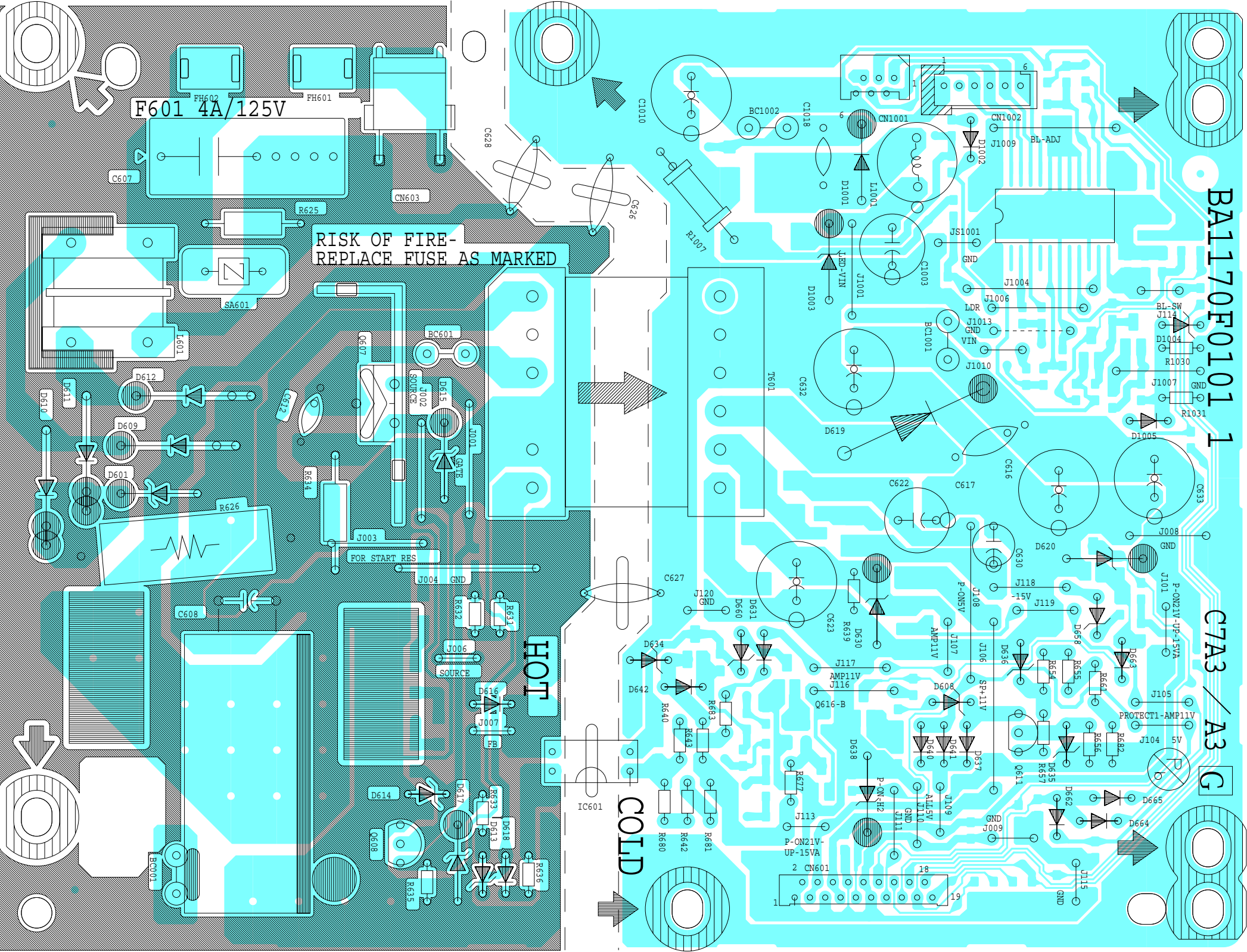
Main CBA Top View [TYPE C]

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

 **CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

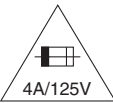
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Main CBA Bottom View [TYPE C]

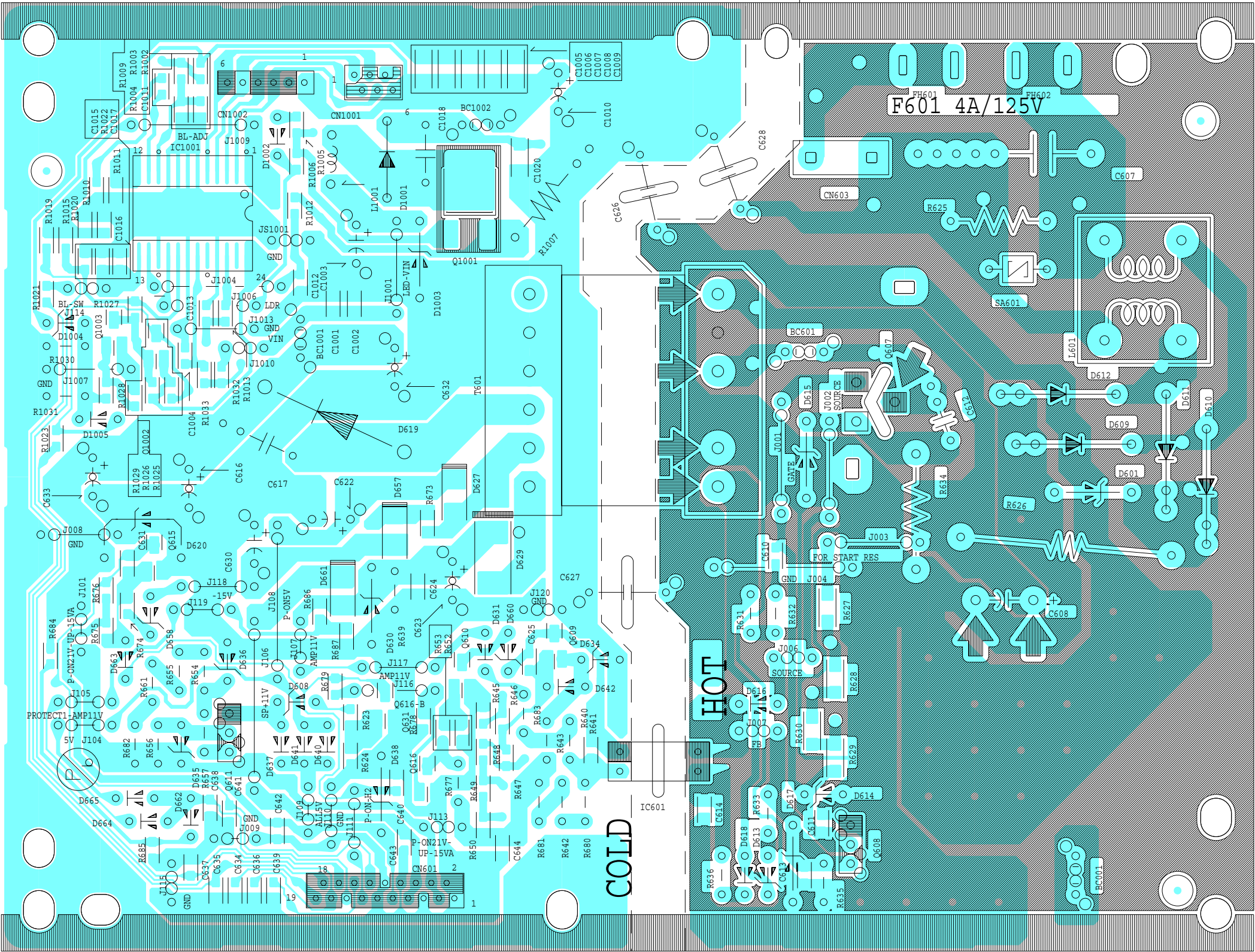
**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



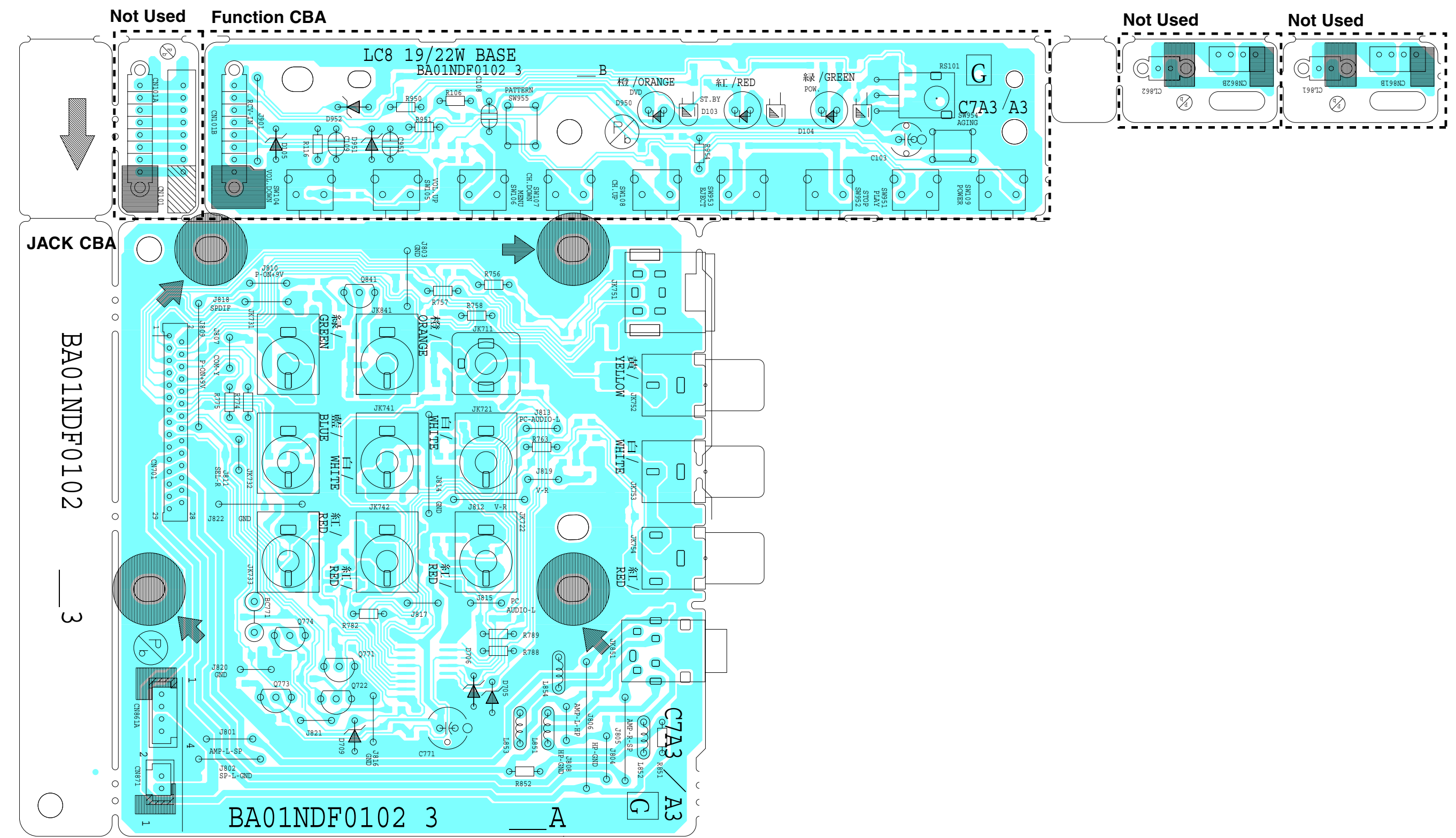
**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

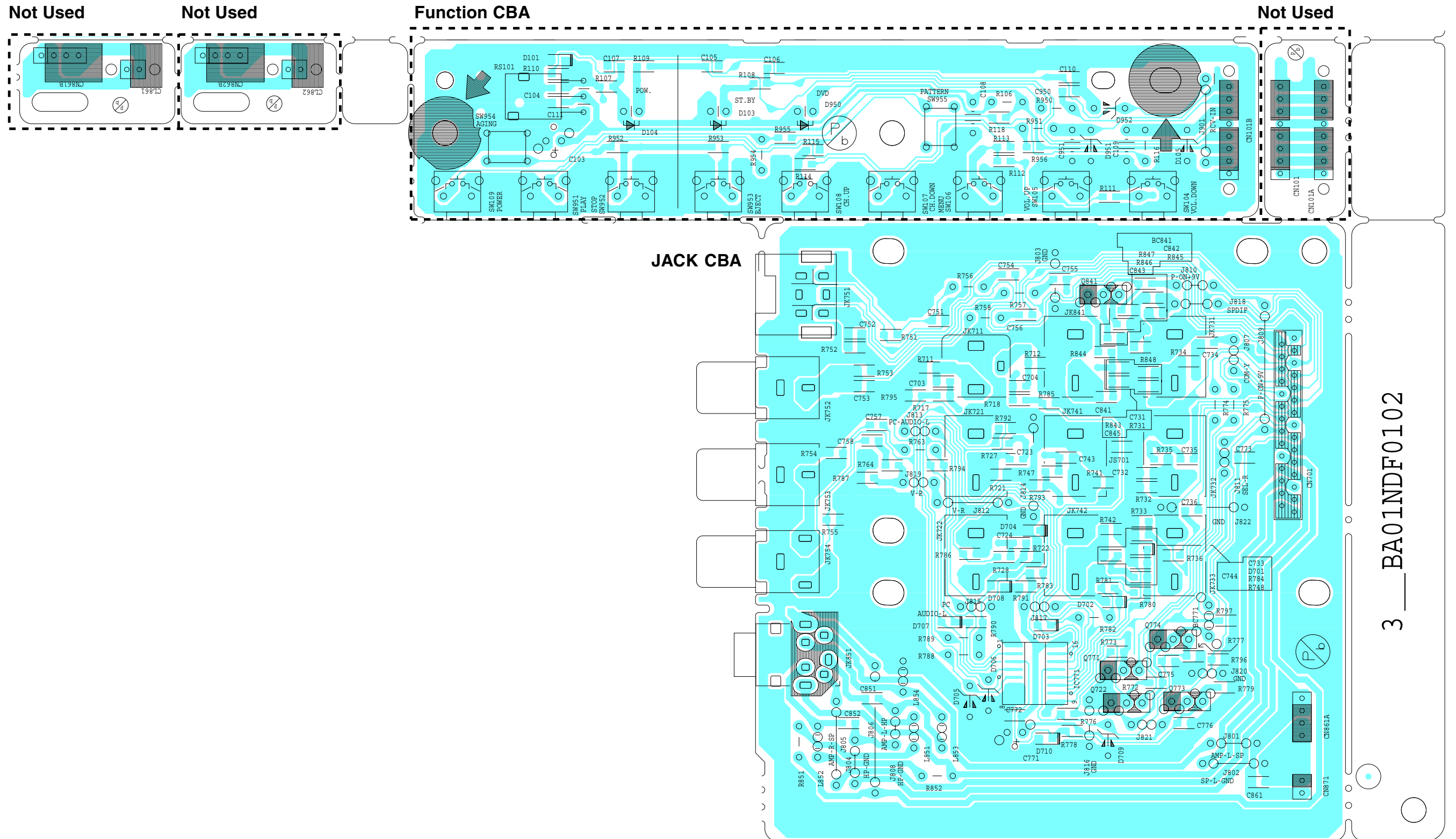


Jack CBA & Function CBA Top View [TYPE B]





### Jack CBA & Function CBA Bottom View [TYPE B]



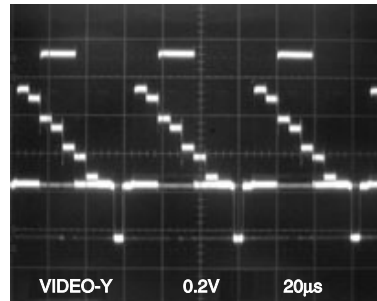
# WAVEFORMS

## [TYPE A, TYPE C]

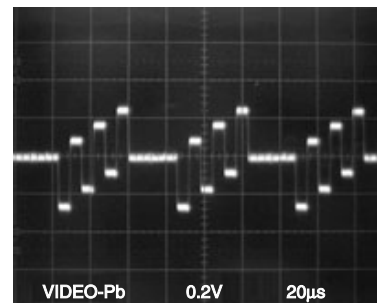
**WF1 ~ WF4 =** Waveforms to be observed at  
Waveform check points.  
(Shown in Schematic Diagram.)

**Input:** NTSC Color Bar Signal (with 1kHz Audio Signal)

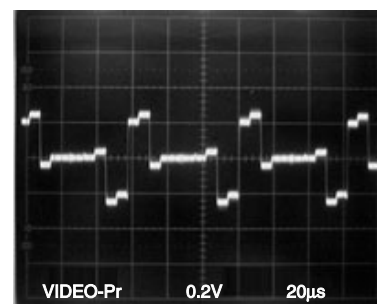
**WF1** JK3701(Y-IN)



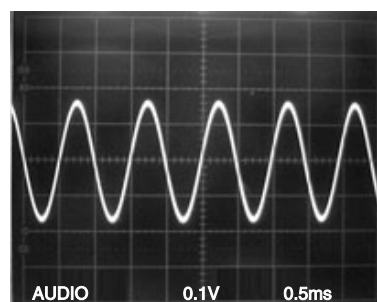
**WF2** JK3701(Pb-IN)



**WF3** JK3701(Pr-IN)



**WF4** JK3701(AUDIO(L)-IN)

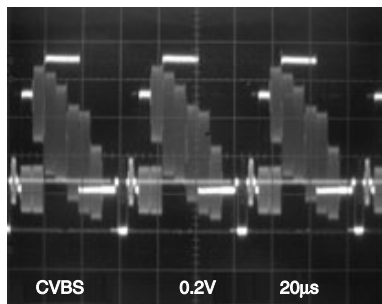


## [TYPE B]

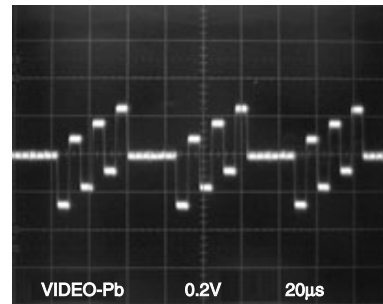
**WF1 ~ WF7 =** Waveforms to be observed at  
Waveform check points.  
(Shown in Schematic Diagram.)

**Input:** NTSC Color Bar Signal (with 1kHz Audio Signal)

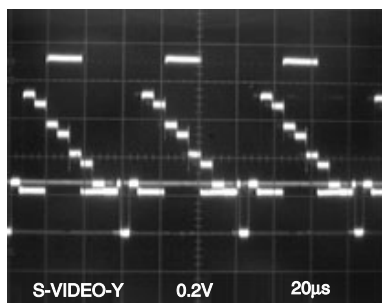
**WF1** Pin 4 of CN302



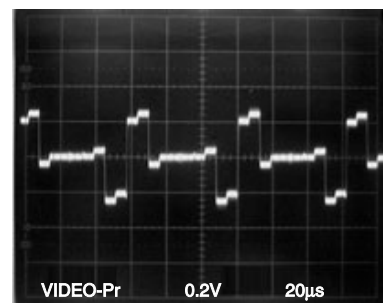
**WF5** Pin 17 of CN302



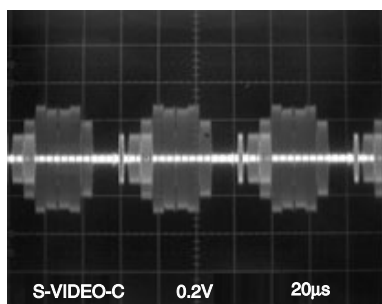
**WF2** Pin 8 of CN302



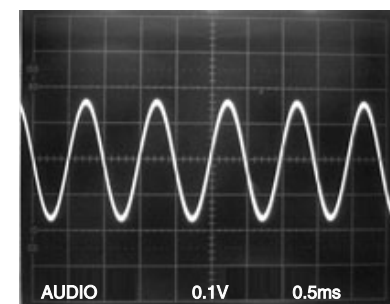
**WF6** Pin 19 of CN302



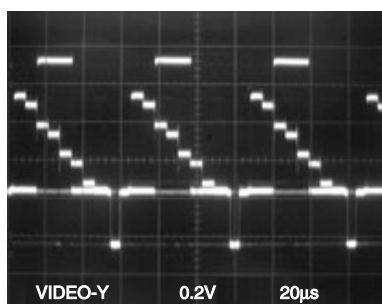
**WF3** Pin 6 of CN302



**WF7** Pin 13 of CN302

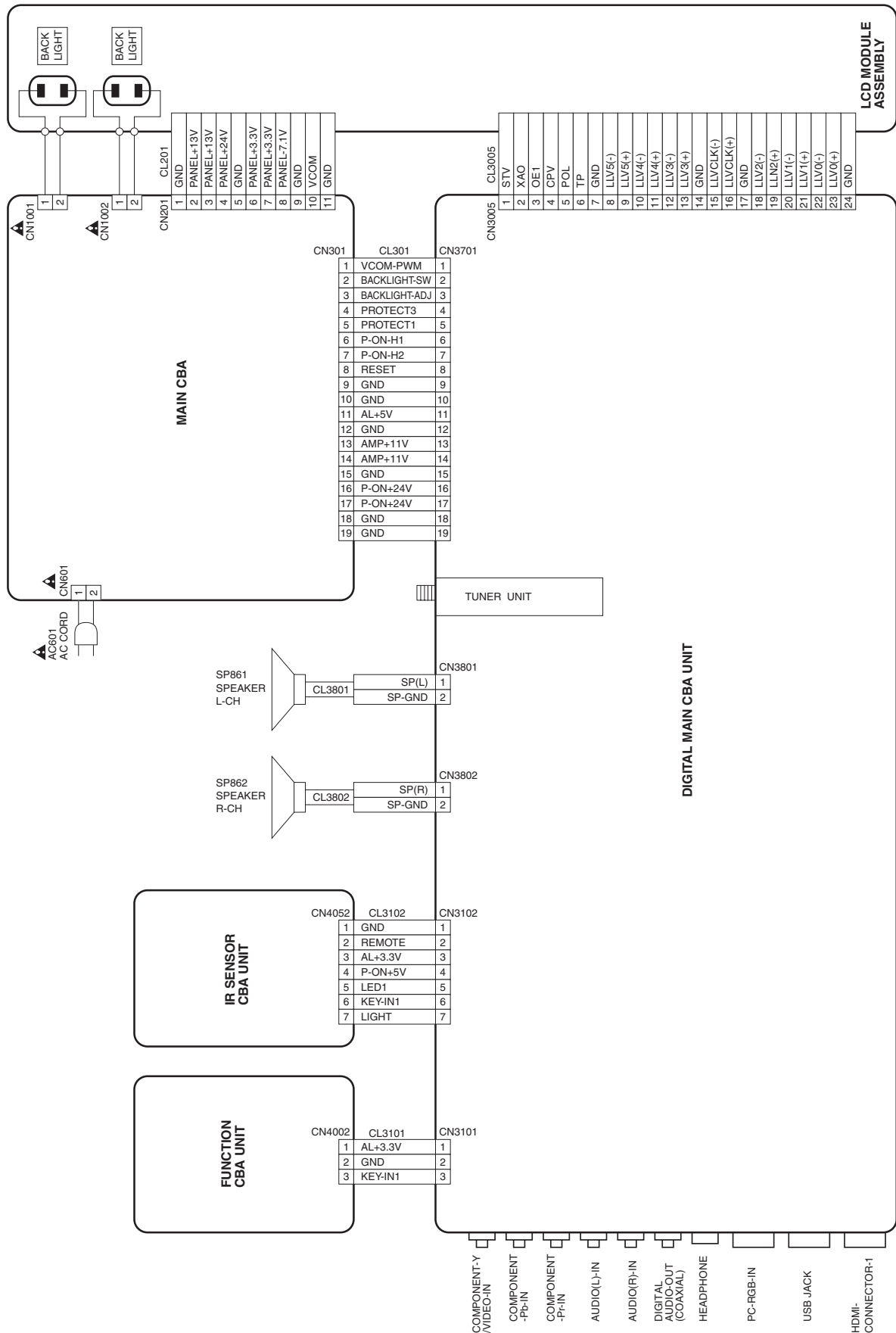


**WF4** Pin 15 of CN302

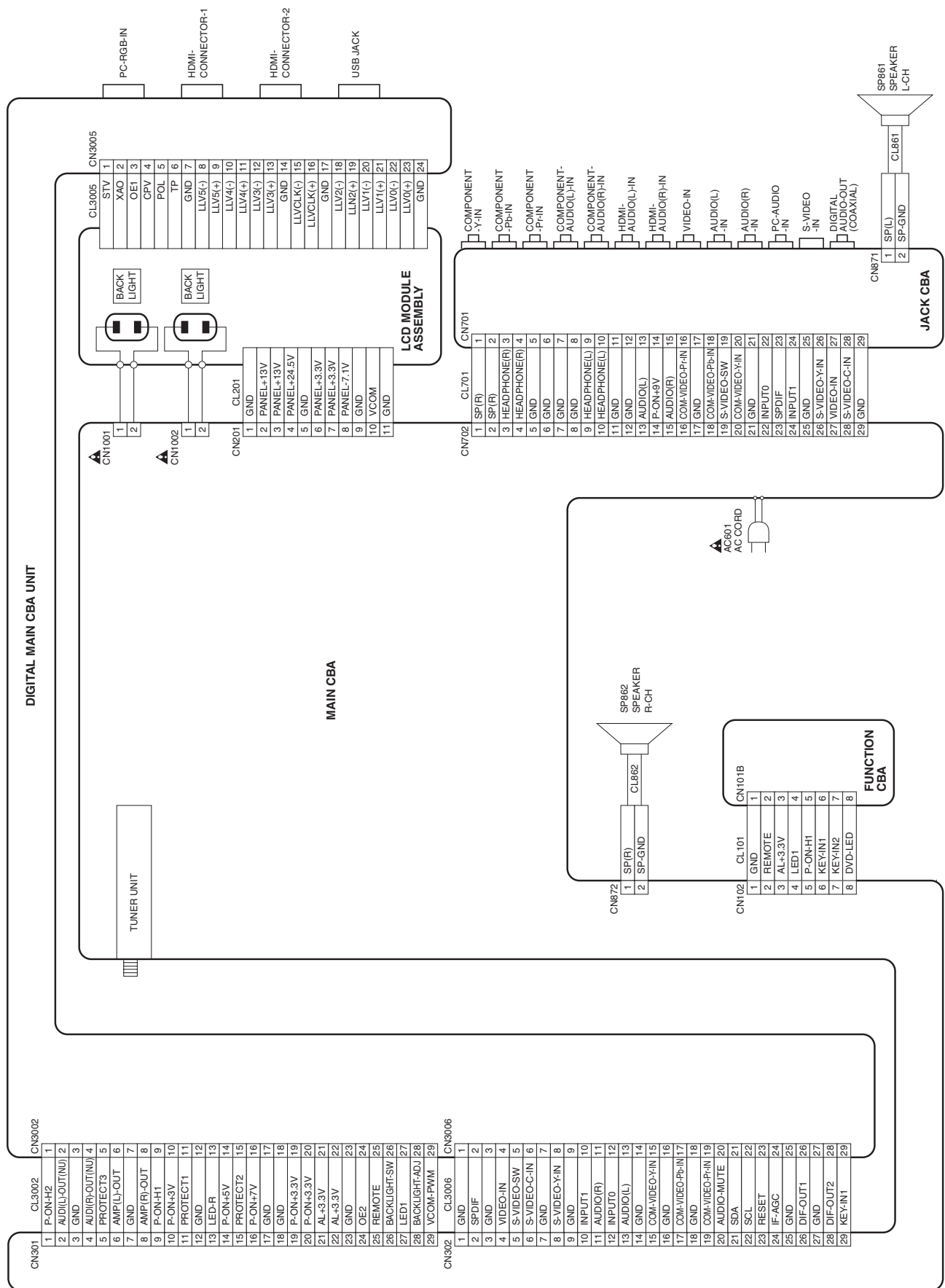


# WIRING DIAGRAM

[TYPE A]

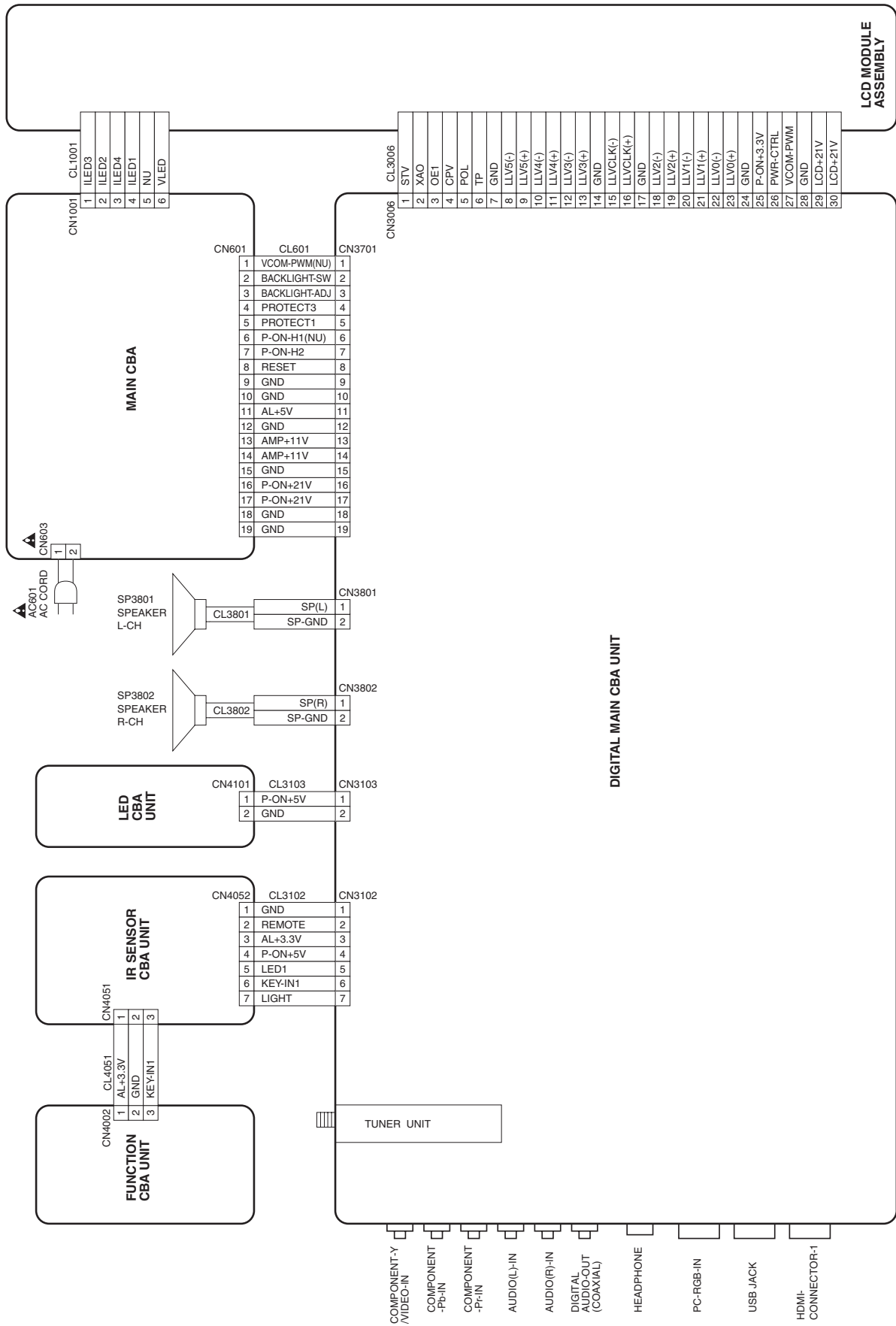


[TYPE B]



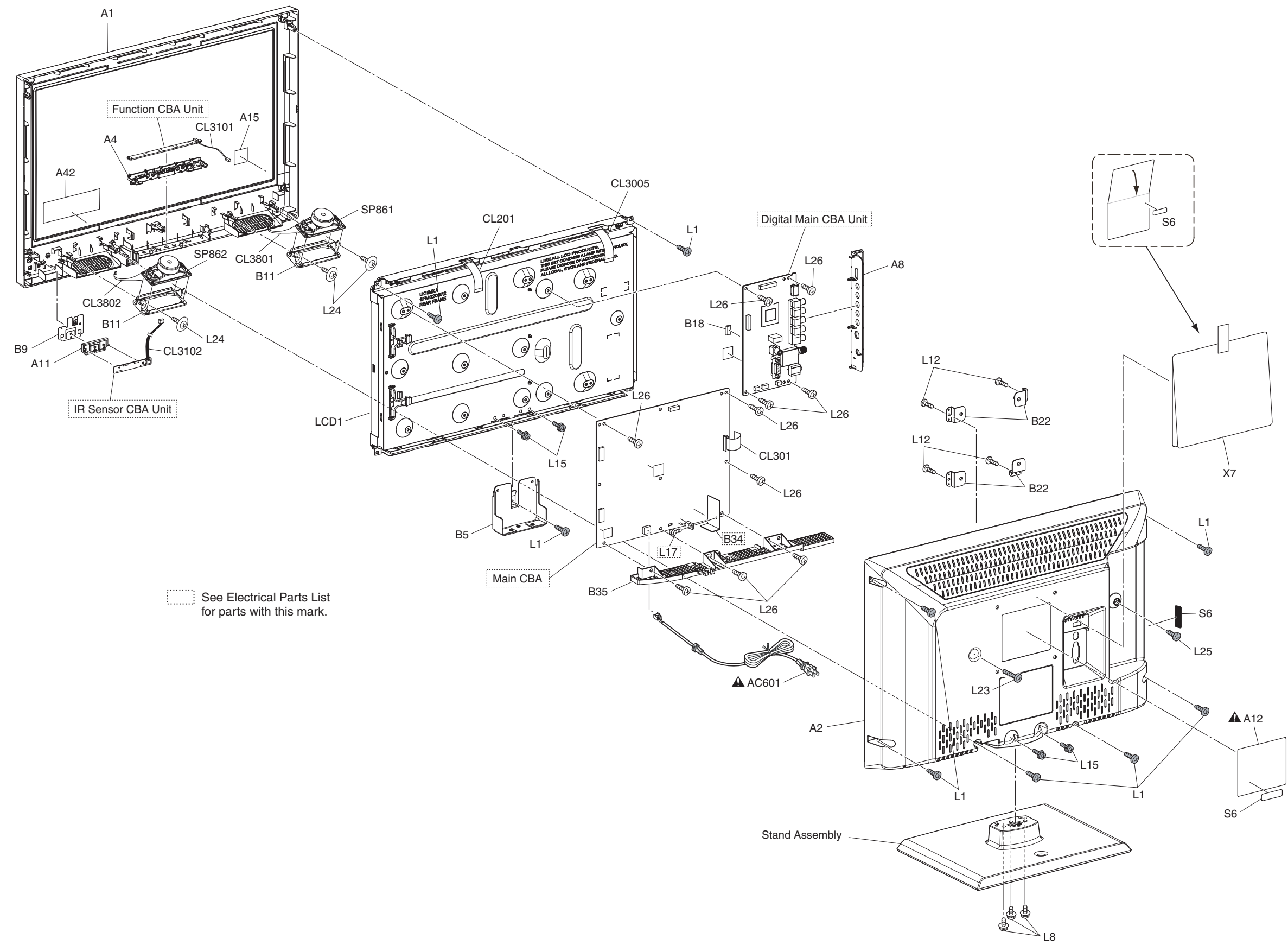


[TYPE C]

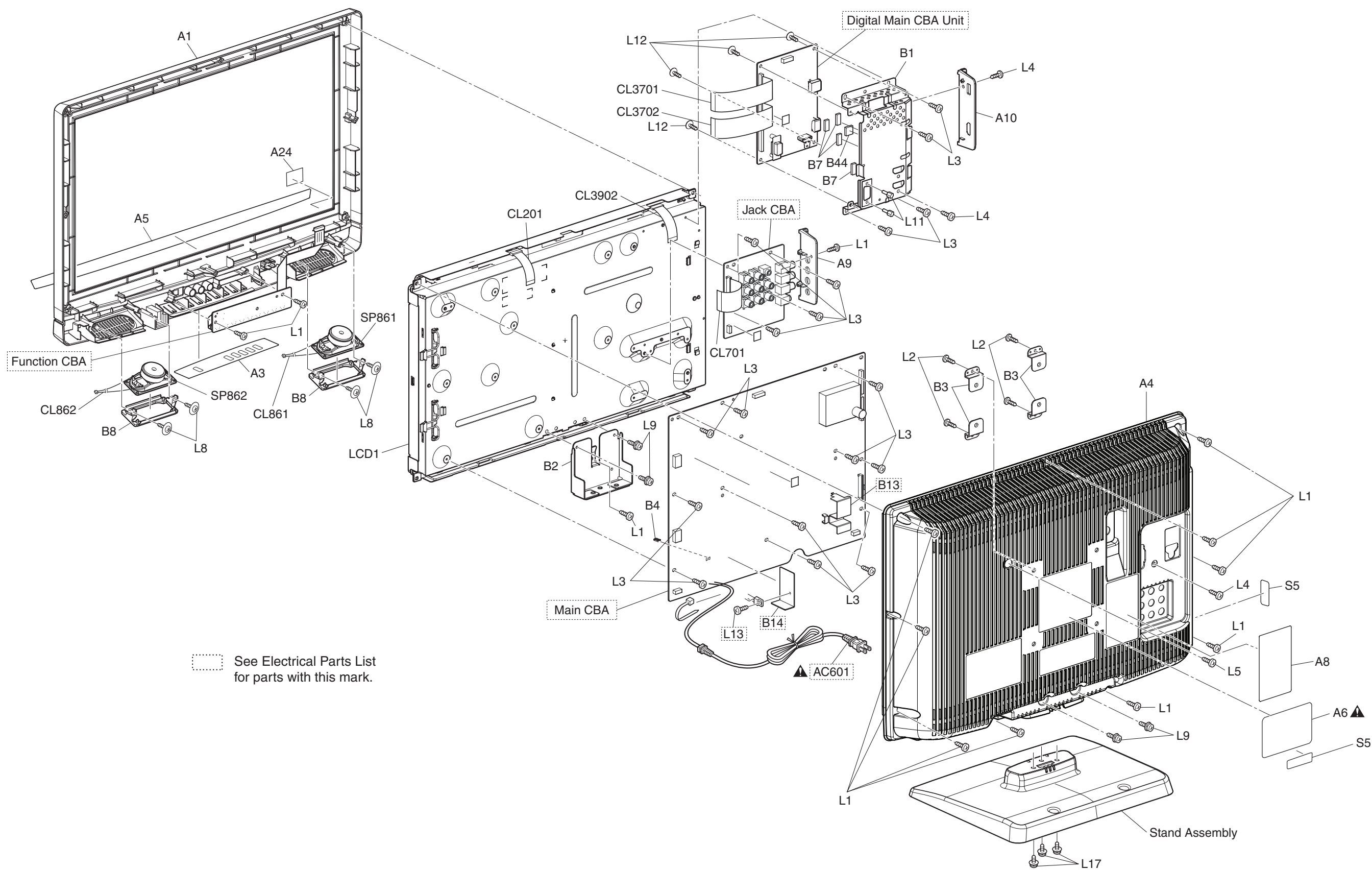


EXPLODED VIEWS

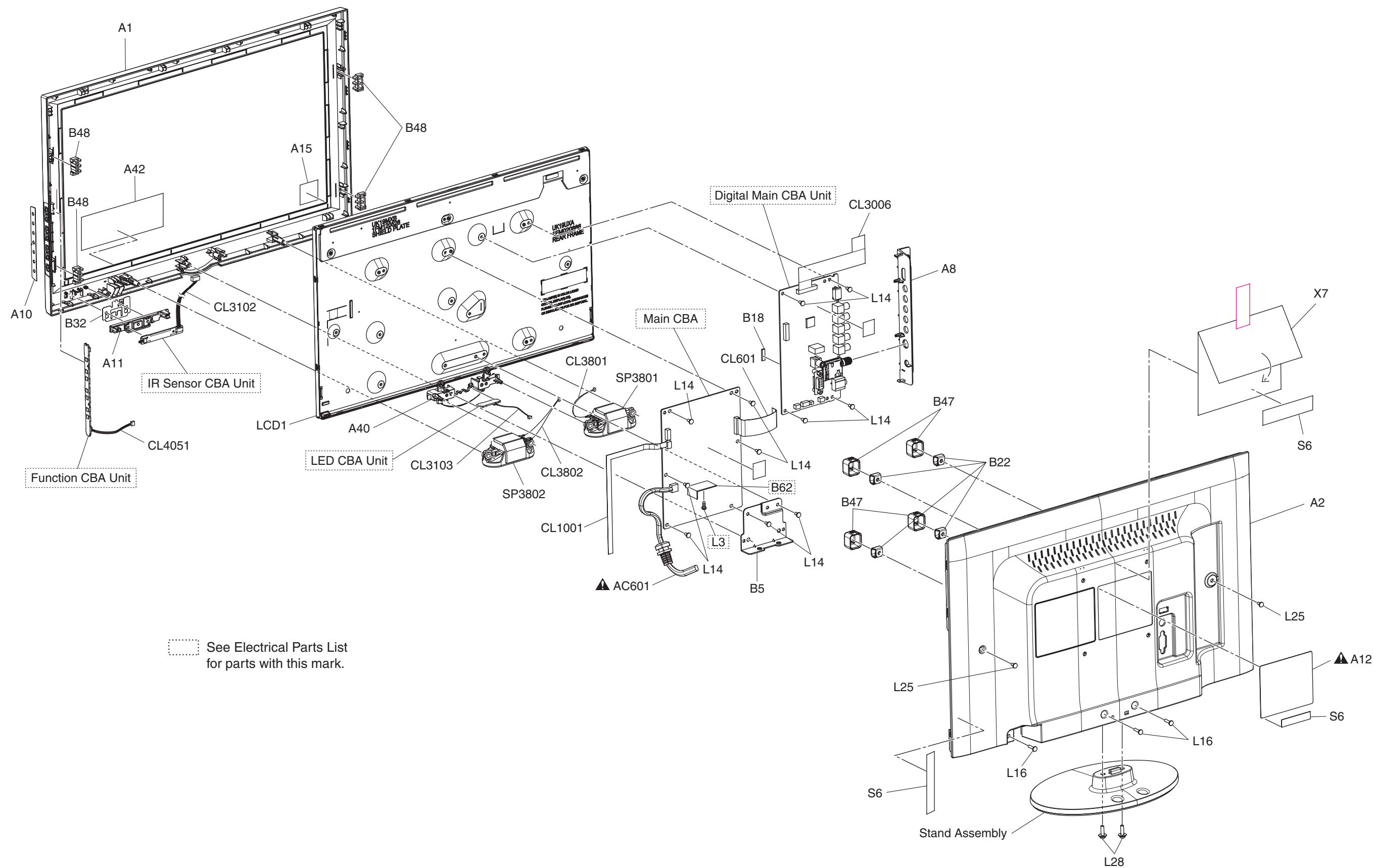
Cabinet [TYPE A]



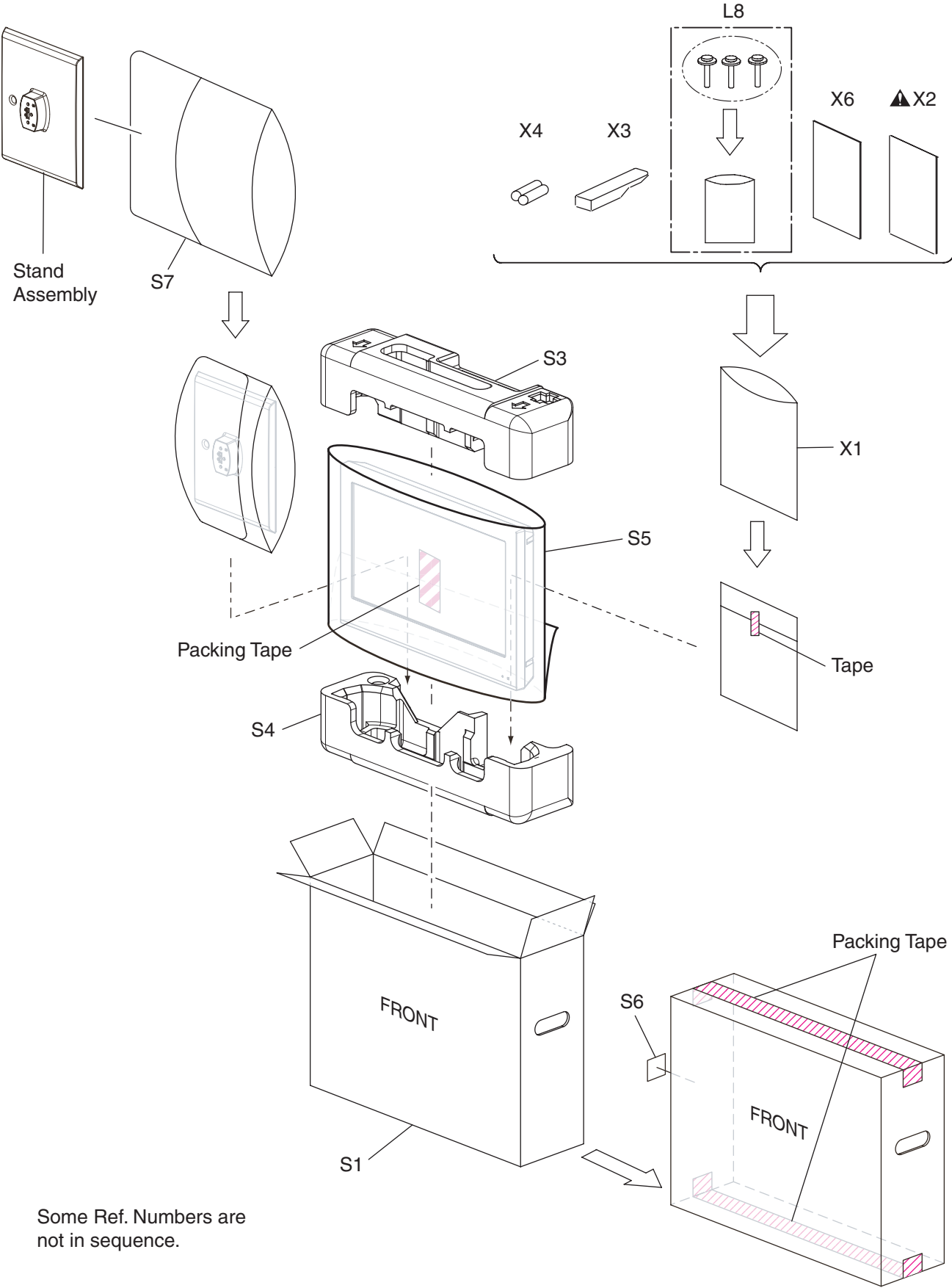
Cabinet [TYPE B]



Cabinet [TYPE C]

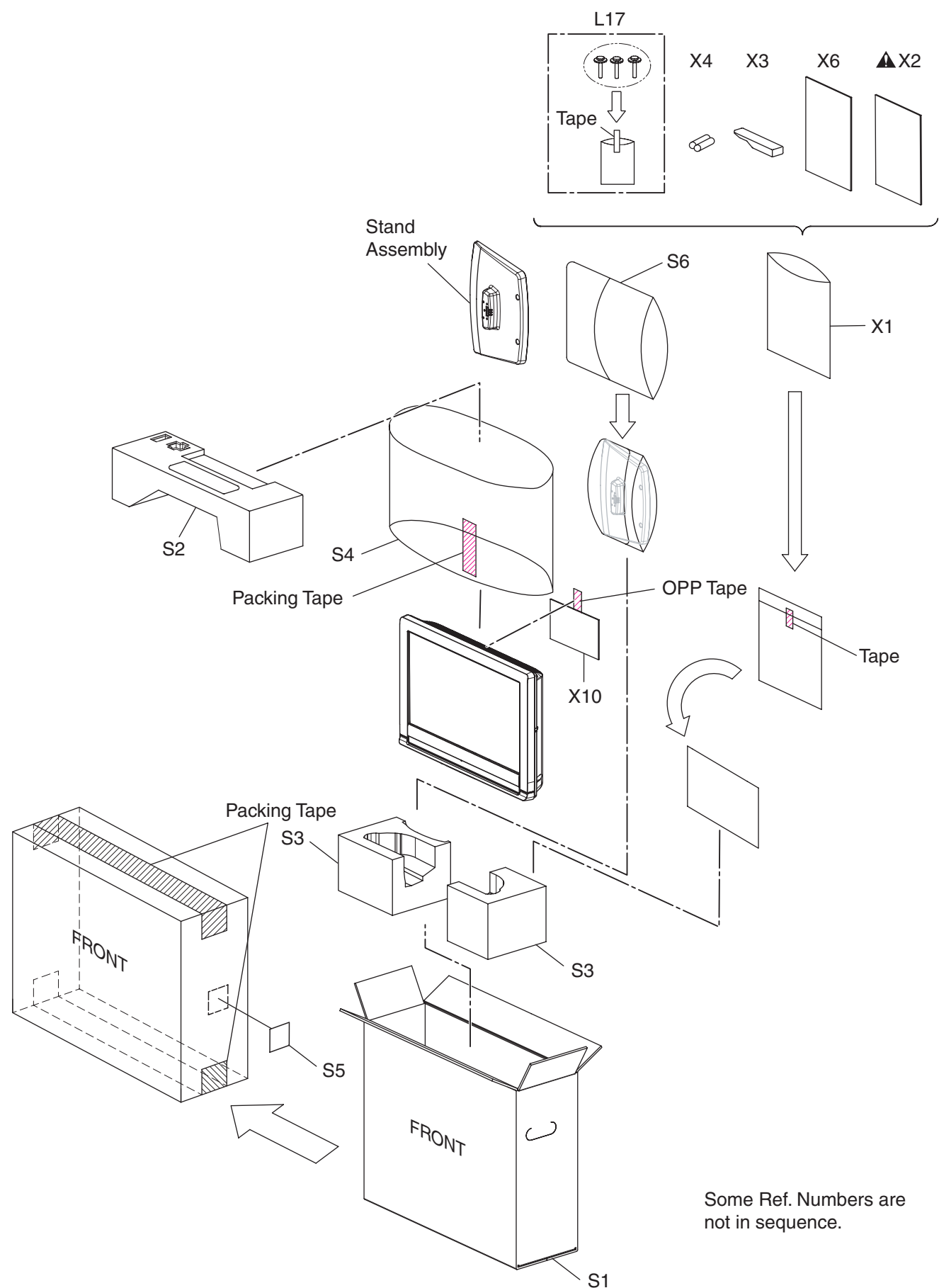


Packing [TYPE A]



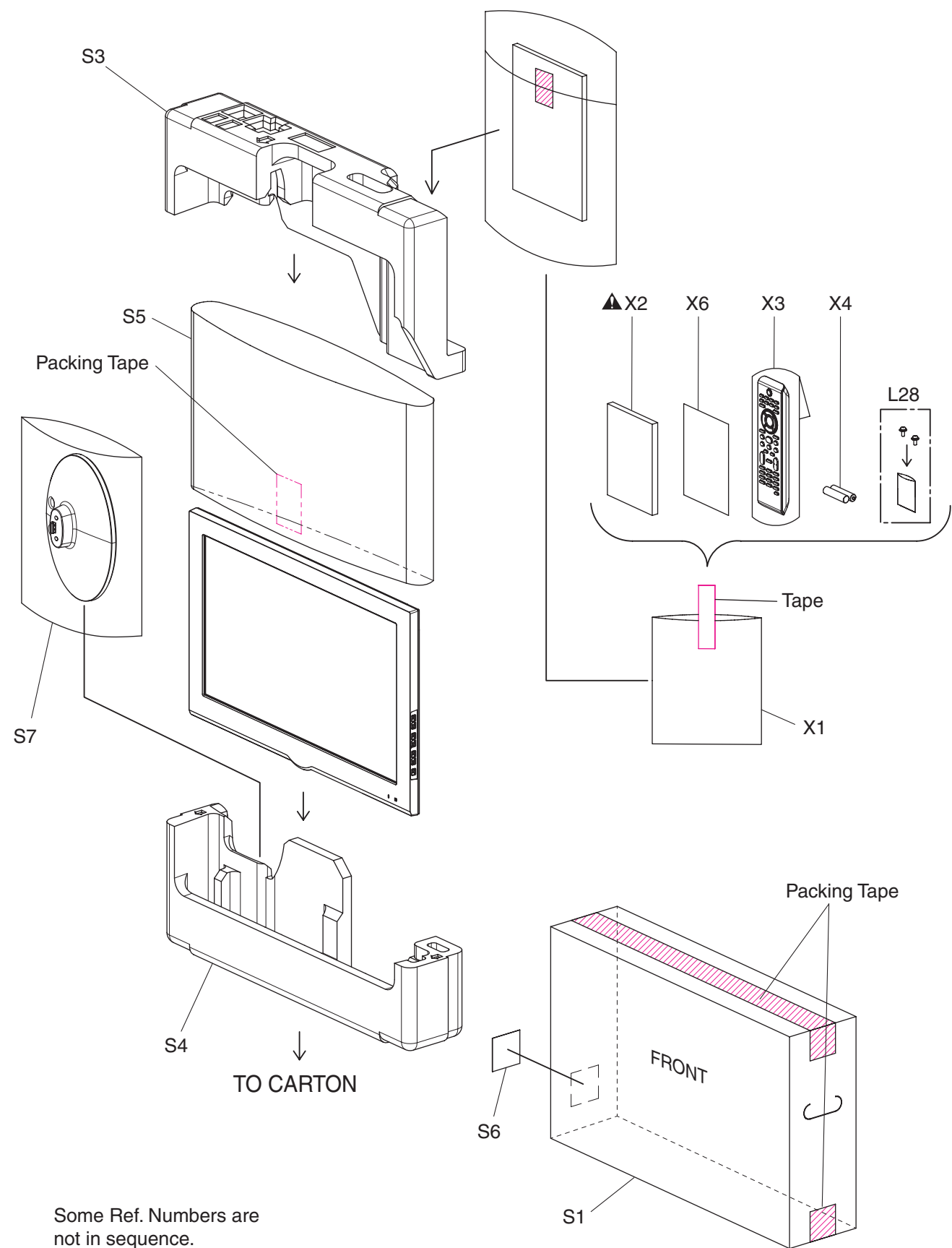
Some Ref. Numbers are not in sequence.

Packing [TYPE B]



Some Ref. Numbers are not in sequence.

Packing [TYPE C]






# TYPE A


## PARTS LIST [19MF301B/F7 (Serial No.: TH1)]

### Mechanical Parts

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.


**NOTE:** Parts that are not assigned part numbers (-----) are not available.

Ref. No.	Description	Part No.
	STAND ASSEMBLY A17N5UT	1ESA28285
A1	FRONT CABINET A17N0UH	1EM126293
A2	REAR CABINET A17N1UH	1EM026966
A4	FUNCTION KNOB A17N1UH	1EM225364
A8	JACK HOLDER A17N1UH	1EM225424
A11	SENSOR LENS A17N1UH	1EM329957
A12 	RATING LABEL A17N7UT	-----
A15	ENERGY STAR LABEL A91F2UH	-----
A42	ENERGY GUIDE LABEL A17N7UT	-----
AC601 	AC CORD W/O A GND WIRE UL/CSA/1700/NO/BLACK	WAC1720LW005
B5	STAND HOLDER A94N0UH	1EM325619
B9	SENSOR PLATE A17N1UH	1EM329958
B11	SPEAKER HOLDER A94N0UH	1EM325677
B18	GASKET A8AF0UH	1EM425861
B22	WALL MOUNT BRACKET A84N0UH	1EM323797
B35	GUARD HOLDER A17N1UH	1EM225524
CL201	WIRE ASSEMBLY 11PIN FFC 11PIN 80MM	WX1A17N1-101
CL301	WIRE ASSEMBLY 19PIN FFC 19PIN 65MM	WX1A17N1-102
CL3005	WIRE ASSEMBLY 24PIN FFC 24PIN 155MM	WX1A17N1-123
CL3101	WIRE ASSEMBLY 3PIN 3PIN/150MM/RED BLACK	WX1A17N1-212
CL3102	WIRE ASSEMBLY 7PIN 7PIN/360MM/RED BLACK	WX1A17N1-201
CL3801	WIRE ASSEMBLY 2PIN 2PIN/120MM/RED BLACK	WX1A17N1-321
CL3802	WIRE ASSEMBLY 2PIN 2PIN/355MM/RED BLACK	WX1A17N1-312
L1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L8	STAND SCREW KIT A17N5UT	1ESA28286
L12	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L15	DOUBLE SEMS SCREW M4X10 + BLK	FPH34100
L23	SCREW TAP TIGHT M3X10 BIND HEAD+BLK NI	GBHS3100
L24	ASSEMBLED SCREW M3X10	1EM420633A
L25	S-TIGHT SCREW M3X6 BIND HEAD+BLACK	GBHS3060
L26	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
LCD1	LCD MODULE 18.5INCH 18.5INCH WXGA	UK19MXA
SP861	SPEAKER S0307F03	DS08070XQ001
SP862	SPEAKER S0307F03	DS08070XQ001
<b>PACKING</b>		
S1	CARTON A17N7UT	1EM435126
S3	STYROFOAM TOP A17N5UT	1EM027907
S4	STYROFOAM BOTTOM A17N5UT	1EM027908

Ref. No.	Description	Part No.
S5	SET BAG A81N0UH	1EM323958A
S6	SERIAL NO. LABEL A01PBUH	-----
S7	STAND BAG A81N0UH	1EM425888
<b>ACCESSORIES</b>		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2 	OWNERS MANUAL A17N7UT	1EMN27981
X3	REMOTE CONTROL NF805UD	NF805UD
X4	DRY BATTERY R03/2S	XB0M451T0006
X6	QUICK START GUIDE A17N7UT	1EMN27982
X7	REGISTRATION CARD (MAGNAVOX) A17N7UT	1EMN27760



# Electrical Parts

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

## NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%    D.....±0.5%    F.....±1%  
 G.....±2%    J.....±5%    K.....±10%  
 M.....±20%    N.....±30%    Z.....+80/-20%

## DIGITAL ASSEMBLY

Ref. No.	Description	Part No.
	DIGITAL ASSEMBLY Consists of the following	A17N7MMA-001
	DIGITAL MAIN CBA UNIT FUNCTION CBA UNIT IR SENSOR CBA UNIT	A17N7MMA-001-DM A17N7MMA-001-FN A17N7MMA-001-IR

## MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following	A17N5MPW-001
<b>CAPACITORS</b>		
C201	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C203	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C204	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASDL4R7
C205	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C207	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C208	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C209	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C212	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C214	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C215	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C216	CHIP CERAMIC CAP. (1608) B K 1µF/16V	CHD1CK30B105
C217	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C218	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C401	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C601▲	CAP METALIZED FILM 0.47µF/300V K 3.5MM	CT2F474DC004
C602	CHIP CERAMIC CAP. B K 1800pF/50V	CHD1JK30B182
C603	CAP ELECTROLYTIC 220µF/200V	CEA221DYG005
C604	CHIP CERAMIC CAP. B K 0.039µF/50V	CHD1JK30B393
C605	CHIP CER. BK 0.082µF/50V	CHD1JK30B823
C606	CHIP CERAMIC CAP. B K 1800pF/50V	CHD1JK30B182
C607	CERAMIC CAP. 560pF/2KV	CA3D561PAN04
C631	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C632	ELECTROLYTIC CAP. 1000µF/35V M	CE1GMZPDL102
C633	CERAMIC CAP. B K 1500pF/1KV	CCD3AKN0B152
C634	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C636	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C637	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C639	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101

Ref. No.	Description	Part No.
C640	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C641	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C645	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C647	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C652	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C661	ELECTROLYTIC CAP. 3.3µF/50V M	CE1JMASDL3R3
C685	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C692▲	SAFTY CAP. 3300pF/250V KX	CA2E332MR101
C695	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C1001	CHIP CERAMIC CAP. B K 1200pF/50V	CHD1JK30B122
C1002	CAP CHIP CERAMIC 0.01µF/250V	CA2E103MR088
C1003	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1004	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1005	CAP CHIP CERAMIC 0.01µF/250V	CA2E103MR088
C1006	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1007	CHIP CERAMIC CAP. B K 1200pF/50V	CHD1JK30B122
C1008	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1009	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1010	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1011	ELECTROLYTIC CAP. 1000µF/35V M	CE1GMZPDL102
C1014	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1015	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1016	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C1018	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1020	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1022	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1023	CAP CHIP CERAMIC 0.01µF/250V	CA2E103MR088
C1024	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1025	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1026	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C1027	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1028	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1029	CAP CHIP CERAMIC 0.01µF/250V	CA2E103MR088
C1030	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1031	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1032	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1033	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1034	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1035	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1037	CHIP CERAMIC CAP. (1608) B K 1µF/16V	CHD1CK30B105
C1038	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C1039	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1040	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1041	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1042	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1043	CHIP CERAMIC CAP.(1608) B K 0.22µF/16V	CHD1CK30B224
C1044	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C1045	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C1046	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1053	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1054	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1056	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
<b>CONNECTORS</b>		
CN201	FFC CONNECTOR IMSA-9615S-11A-PP-A	JC96J11ER007
CN301	FMN CONNECTOR TOP 19P IMSA-9615S-19A-PP-A	JC96J19ER007
CN601▲	VH CONNECTOR PRINT OSU B2P3S-VH(LF)(SN)	J3VH030JG002
CN1001▲	CONNECTOR PRINT OSU KW05-120-02-00	J30502KET001
CN1002▲	CONNECTOR PRINT OSU KW05-120-02-00	J30502KET001

Ref. No.	Description	Part No.
<b>DIODES</b>		
D201	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D204	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D207	DIODE ZENER 7V5BSA-T26	NDTA7R5BST26
D401	DIODE SK16-T/R	ND1Z0000SK16
D402	DIODE ZENER 8V2BSB-T26	NDTB8R2BST26
D404	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D405	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D406	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D409	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D416	DIODE ZENER 10BSB-T26	NDTB010BST26
D417	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D418	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D601▲	DIODE 1N5397BD	NDL1001N5397
D602▲	DIODE 1N5397BD	NDL1001N5397
D603▲	DIODE 1N5397BD	NDL1001N5397
D604▲	DIODE 1N5397BD	NDL1001N5397
D605	DIODE ZENER 4V3BSB-T26	NDTB4R3BST26
D607▲	DIODE ZENER 27BSB-T26	NDTB027BST26
D608▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D609	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D610	DIODE ZENER 1ZB220-YBB	NDWZ01ZB220Y
D615▲	DIODE ZENER 1ZB36BB	NDWZ0001ZB36
D631	DIODE SCHOTTKY SMD SK2B-TR	ND1Z00SK2BTR
D632	DIODE SCHOTTKY SB3150BH	NDWZ00SB3150
D633▲	DIODE ZENER 1ZB30BB	NDWZ0001ZB30
D634	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D636	DIODE SK16-T/R	ND1Z0000SK16
D639	DIODE SK16-T/R	ND1Z0000SK16
D642	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D648	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D649	DIODE ZENER 3V3BSB-T26	NDTB3R3BST26
D650	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D651	WIRE CP STP-S-0.50	XZ40FOREN001
D655	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D656	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D657	DIODE ZENER 1ZB7.5BB	NDWZ001ZB7R5
D668▲	DIODE ZENER 1ZB22BB	NDWZ0001ZB22
D670	DIODE SCHOTTKY SMD SK2B-TR	ND1Z00SK2BTR
D671▲	DIODE ZENER 1ZB20BB	NDWZ0001ZB20
D672	DIODE SK16-T/R	ND1Z0000SK16
D1001	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1002	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1003	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1004	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1005	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D1006	SWITCHING DIODE DAP202UT106	QD1Z0DAP202U
D1009	SWITCHING DIODE DAN202U T106	QD1Z0DAN202U
D1010	SWITCHING DIODE DAP202UT106	QD1Z0DAP202U
D1011	SWITCHING DIODE DAP202UT106	QD1Z0DAP202U
D1013	SWITCHING DIODE DAP202UT106	QD1Z0DAP202U
D1015	SWITCHING DIODE DAP202UT106	QD1Z0DAP202U
D1016	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1017	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1018	DIODE ZENER 6V8BSB-T26	NDTB6R8BST26
D1020	DIODE ZENER 5V1BSB-T26	NDTB5R1BST26
D1021	DIODE ZENER 15BSB-T26	NDTB015BST26
D1022	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1023	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1028▲	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26

Ref. No.	Description	Part No.
D1029	DIODE ZENER 12BSB-T26	NDTB012BST26
D1030	DIODE ZENER 12BSB-T26	NDTB012BST26
D1031	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1034	DIODE ZENER 11BSB-T26	NDTB011BST26
D1036	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1038	WIRE CP STP-S-0.50	XZ40FOREN001
D1045	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
<b>ICS</b>		
IC201	IC TL3472CDR	NSZBA0TTY115
IC202	IC(REGULATOR) PQ200WNA1ZPH	QSZBA0TSH072
IC601▲	IC PHOTOCOUPLER TLP781F(D4-FUNBL F)	QPEL781FBLLF
IC631	IC(REGULATOR) PQ200WNA1ZPH	QSZBA0TSH072
IC1001	IC PULSE-WIDTH-MODULATION CONT TL494CDR	NSCA0T0TY006
IC1002	IC OPERATIONNAL AMPLIFIER KIA358F-EL	NSZBA0TJY030
<b>COIL</b>		
L601▲	LINE FILTER 5.0MH 96005	LLBG00ZKT004
<b>TRANSISTORS</b>		
Q202	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
Q203	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q206	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q207	TRANSISTOR 2SC2655-Y(Te6 F M)	QQSY2SC2655F
Q208	TRANSISTOR KTA1281-Y-AT/P	NQVYKTA1281P
Q209	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q211	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
Q212	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q400	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q401	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q402	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q601▲	FET MOS TK5A50D(FUNAI)	QEWZTK5A50DQ
Q602▲	TRANSISTOR 2SC2120-Y(Te2 F T)	QQSY2SC2120F
Q631	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q633	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q634	TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q638	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q639	PNP TRANSISTOR SMD 2SA1576UBTLQ	QQ1Q2SA1576U
Q641	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1001	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1002	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1003	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1004	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1005▲	FET MOS SMD TPC8214-H	QF2ZTPC8214H
Q1006	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
Q1007	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
Q1008	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1009	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1010	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1011	TRANSISTOR 2SA950-Y(Te2 F T)	QQSY02SA950F
Q1012	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1014	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1015	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1016	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1017	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1018	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
Q1019	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1023	CHIP TRANSISTOR 2SC2412K T146S	QQ1S2SC2412K
Q1024	CHIP TRANSISTOR 2SA1037AK T146R	QQ1R2SA1037A
<b>RESISTORS</b>		
R201	WIRE CP STP-S-0.50	XZ40FOREN001
R202	RES CHIP 1608 1/10W F 8.2k Ω	RTW8201HH008
R203	RES CHIP 1608 1/10W F 680 Ω	RTW6800HH008
R204	RES CHIP 1608 1/10W F 2.2k Ω	RTW2201HH008
R205	RES CHIP 1608 1/10W J 22k Ω	RRXA223HH013

Ref. No.	Description	Part No.
R209	RES CHIP 1608 1/10W J 56k $\Omega$	RRXA563HH013
R210	RES CHIP 1608 1/10W J 6.8k $\Omega$	RRXA682HH013
R211	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R212	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R213	RES CHIP 1608 1/10W J 27k $\Omega$	RRXA273HH013
R214	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R220	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R221	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R222	RES CARBON FILM T 1/4W J 180 $\Omega$	RCX4181T1001
R223	RES CHIP 1608 1/10W J 15k $\Omega$	RRXA153HH013
R224	RES CHIP 1608 1/10W J 1.0 $\Omega$	RRXA1R0HH013
R225	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R226	RES CARBON FILM T 1/4W J 10 $\Omega$	RCX4100T1001
R227	RES CHIP 1608 1/10W J 100k $\Omega$	RRXA104HH013
R228	WIRE CP STP-S-0.50	XZ40FOREN001
R229	RES CARBON FILM T 1/4W J 10 $\Omega$	RCX4100T1001
R230	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R231	RES CHIP 1608 1/10W J 1.5k $\Omega$	RRXA152HH013
R232	RES CHIP 1608 1/10W J 15k $\Omega$	RRXA153HH013
R233	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R234	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R235	RES CARBON FILM T 1/4W J 8.2k $\Omega$	RCX4822T1001
R236	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R243	RES CARBON FILM T 1/4W J 180 $\Omega$	RCX4181T1001
R244	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R245	RES CHIP 1608 1/10W J 27k $\Omega$	RRXA273HH013
R246	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R247	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R401	RES CHIP 1608 1/10W J 1.0 $\Omega$	RRXA1R0HH013
R402	RES CHIP 1608 1/10W F 9.10k $\Omega$	RTW9101HH008
R403	RES CHIP 1608 1/10W F 47.0k $\Omega$	RTW4702HH008
R406	RES CHIP 1608 1/10W J 100k $\Omega$	RRXA104HH013
R407	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R408	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R413	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R414	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R415	RES CHIP 1608 1/10W J 6.8k $\Omega$	RRXA682HH013
R416	RES CHIP 1608 1/10W J 2.7k $\Omega$	RRXA272HH013
R417	RES CHIP 1608 1/10W J 27k $\Omega$	RRXA273HH013
R418	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R601▲	GLASS GLAZE RES. 1/2W J 2.7M $\Omega$	RXX2JZLZ0275
R602	CEMENT RES. 3W K 1.2 $\Omega$	RW031R2PG007
R603	RES CHIP 3216 1/4W J 390k $\Omega$	RRX4394HH034
R604	RES CHIP 3216 1/4W J 390k $\Omega$	RRX4394HH034
R605	RES CHIP 3216 1/4W J 390k $\Omega$	RRX4394HH034
R606	RES CHIP 3216 1/4W J 330k $\Omega$	RRX4334HH034
R607	RES CARBON FILM T 1/4W J 150 $\Omega$	RCX4151T1001
R608	RES CARBON FILM T 1/4W J 150 $\Omega$	RCX4151T1001
R609	RES CARBON FILM T 1/4W J 1.5k $\Omega$	RCX4152T1001
R610	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R611	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4121T1001
R612	RES CARBON FILM T 1/4W J 120 $\Omega$	RCX4121T1001
R613▲	METAL RESISTER. 2W J 0.56 $\Omega$	RN02R56ZU001
R614	RES CARBON FILM T 1/4W J 120 $\Omega$	RCX4121T1001
R631	RES CHIP 1608 1/10W J 12k $\Omega$	RRXA123HH013
R632	WIRE CP STP-S-0.50	XZ40FOREN001
R633	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R635	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R636	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R638	RES CARBON FILM T 1/4W J 3.9k $\Omega$	RCX4392T1001
R639	RES CHIP 1608 1/10W J 18k $\Omega$	RRXA183HH013
R640	RES CHIP 1608 1/10W F 18.0k $\Omega$	RTW1802HH008
R641	RES CHIP 1608 1/10W F 1.10k $\Omega$	RTW1101HH008


Ref. No.	Description	Part No.
R642	RES CHIP 1608 1/10W F 27.0k $\Omega$	RTW2702HH008
R643	RES CHIP 1608 1/10W F 27.0k $\Omega$	RTW2702HH008
R646	RES CHIP 1608 1/10W F 2.2k $\Omega$	RTW2201HH008
R647	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R648	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R649	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R650	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R651	RES CARBON FILM T 1/4W J 10 $\Omega$	RCX4100T1001
R652	WIRE CP STP-S-0.50	XZ40FOREN001
R653	RES CHIP 1608 1/10W F 330 $\Omega$	RTW3300HH008
R655	RES CHIP 1608 1/10W F 240 $\Omega$	RTW2400HH008
R656	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R661	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R662	RES CARBON FILM T 1/4W J 15k $\Omega$	RCX4153T1001
R666	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R667	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R668	RES CHIP 1608 1/10W J 47k $\Omega$	RRXA473HH013
R669	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R670	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R677	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R682	WIRE CP STP-S-0.50	XZ40FOREN001
R1001	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R1002	RES CARBON FILM T 1/4W J 180 $\Omega$	RCX4181T1001
R1003	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R1004	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1005	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R1006	RES CARBON FILM T 1/4W J 180 $\Omega$	RCX4181T1001
R1007	RES CARBON FILM T 1/4W J 10 $\Omega$	RCX4100T1001
R1008	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1009	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1010	RES CARBON FILM T 1/4W J 10 $\Omega$	RCX4100T1001
R1011	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1012	RES CHIP 1608 1/10W J 27k $\Omega$	RRXA273HH013
R1013	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1014	RES CHIP 1608 1/10W J 27k $\Omega$	RRXA273HH013
R1015	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1017	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1018	RES CHIP 1608 1/10W J 390 $\Omega$	RRXA391HH013
R1019	RES CHIP 1608 1/10W J 390 $\Omega$	RRXA391HH013
R1020	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1022	RES CHIP 1608 1/10W J 33k $\Omega$	RRXA333HH013
R1023	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1024	RES CHIP 1608 1/10W F 22.0k $\Omega$	RTW2202HH008
R1025	RES CHIP 1608 1/10W J 1.5k $\Omega$	RRXA152HH013
R1026	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R1027	RES CHIP 1608 1/10W J 5.1k $\Omega$	RRXA512HH013
R1028	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1029	RES CARBON FILM T 1/4W J 1.8k $\Omega$	RCX4182T1001
R1030	RES CARBON FILM T 1/4W J 20k $\Omega$	RCX4203T1001
R1031	RES CARBON FILM T 1/4W J 4.7k $\Omega$	RCX4472T1001
R1032▲	METAL OXIDE FILM RES. 2W J 0.33 $\Omega$	RN02R33ZU001
R1034	RES CHIP 1608 1/10W J 33k $\Omega$	RRXA333HH013
R1035	RES CHIP 1608 1/10W F 1.00k $\Omega$	RTW1001HH008
R1036	RES CHIP 1608 1/10W F 15.0k $\Omega$	RTW1502HH008
R1037	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R1038	RES CHIP 1608 1/10W J 240k $\Omega$	RRXA244HH013
R1039	RES CHIP 1608 1/10W F 68.0k $\Omega$	RTW6802HH008
R1040	RES CHIP 1608 1/10W F 6.20k $\Omega$	RTW6201HH008
R1041	RES CHIP 1608 1/10W F 1.00k $\Omega$	RTW1001HH008
R1042	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R1043	RES CHIP 1608 1/10W F 5.10k $\Omega$	RTW5101HH008
R1044	RES CHIP 1608 1/10W F 5.10k $\Omega$	RTW5101HH008
R1045	RES CHIP 1608 1/10W J 240k $\Omega$	RRXA244HH013

Ref. No.	Description	Part No.
R1046	RES CHIP 1608 1/10W J 24k $\Omega$	RRXA243HH013
R1048	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R1049	RES CHIP 1608 1/10W J 12k $\Omega$	RRXA123HH013
R1050	RES CHIP 1608 1/10W J 390k $\Omega$	RRXA394HH013
R1051	RES CHIP 1608 1/10W J 390k $\Omega$	RRXA394HH013
R1052	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1054	RES CHIP 1608 1/10W F 13.0k $\Omega$	RTW1302HH008
R1055	RES CHIP 1608 1/10W F 220k $\Omega$	RTW2203HH008
R1056	RES CHIP 1608 1/10W F 30.0k $\Omega$	RTW3002HH008
R1057	RES CHIP 1608 1/10W J 390k $\Omega$	RRXA394HH013
R1058	RES CHIP 1608 1/10W F 10.0k $\Omega$	RTW1002HH008
R1059	RES CHIP 1608 1/10W F 10.0k $\Omega$	RTW1002HH008
R1060	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1061	RES CHIP 1608 1/10W J 33k $\Omega$	RRXA333HH013
R1065	RES CARBON FILM T 1/4W J 2.7k $\Omega$	RCX4272T1001
R1066	RES CARBON FILM T 1/4W J 2.7k $\Omega$	RCX4272T1001
R1067	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1068	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1069	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1070	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1071	RES CHIP 1608 1/10W F 4.30k $\Omega$	RTW4301HH008
R1072	RES CHIP 1608 1/10W F 270 $\Omega$	RTW2700HH008
R1073	RES CHIP 1608 1/10W F 1.20k $\Omega$	RTW1201HH008
R1074	RES CHIP 1608 1/10W J 100k $\Omega$	RRXA104HH013
R1081	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1082	RES CHIP 1608 1/10W F 68.0k $\Omega$	RTW6802HH008
R1083	RES CHIP 1608 1/10W F 1.00M $\Omega$	RTW1004HH008
R1084	RES CHIP 1608 1/10W J 100k $\Omega$	RRXA104HH013
R1086	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1087	RES CHIP 1608 1/10W F 68.0k $\Omega$	RTW6802HH008
R1088	RES CHIP 1608 1/10W F 1.00M $\Omega$	RTW1004HH008
R1089	RES CHIP 1608 1/10W F 12.0k $\Omega$	RTW1202HH008
R1090	RES CHIP 1608 1/10W F 47.0k $\Omega$	RTW4702HH008
R1091	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1092	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1093	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1094	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1095	RES CHIP 1608 1/10W J 1.2k $\Omega$	RRXA122HH013
R1099	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1105	RES CHIP 1608 1/10W J 3.3k $\Omega$	RRXA332HH013
R1106	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1107	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1109	RES CHIP 1608 1/10W F 2.20k $\Omega$	RTW2201HH008
R1110	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1111	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1112	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
<b>MISCELLANEOUS</b>		
B34	POW HEAT SINK A7120UH	1EM423993
BC601	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1001	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1002	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1003	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F601▲	FUSE STC4A125V U/CT	PAGE20CW3402
FH601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JS631	WIRE CP STP-S-0.50	XZ40F0REN001
L17	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA601▲	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
T631▲	TRANS POWER 11711	LTT2PC0KT072
T1002▲	TRANS INV HVT-323	LTZ3PZ0XB016

# TYPE A



## PARTS LIST [LC190EM2 (Serial No.: TH1)]

### Mechanical Parts


**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTE:** Parts that are not assigned part numbers (-----) are not available.

### Different parts from the original model 19MF301B/F7 (Serial No. : TH1)

Ref. No.	Description	Part No.
A1	FRONT CABINET A17N1UH	1EM026965
A12 	RATING LABEL A17N5UT	-----
S1	CARTON A17N5UT	1EM435040
X2 	OWNERS MANUAL A17N5UT	1EMN27859
X3	REMOTE CONTROL NH001UD	NH001UD
X6	QUICK START GUIDE A17N5UT	1EMN27860
X7	REGISTRATION CARD (EMERSON) A17N5UT	1EMN27764

# Electrical Parts

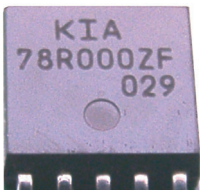
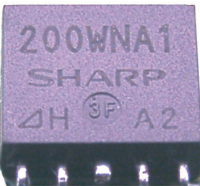
**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

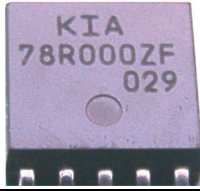
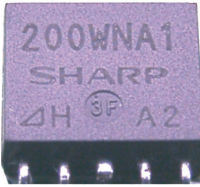
## NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%    D.....±0.5%    F.....±1%  
 G.....±2%    J.....±5%    K.....±10%  
 M.....±20%    N.....±30%    Z.....+80/-20%

## Different parts from the original model 19MF301B/F7 (Serial No. : TH1)


Ref. No.	Description	Part No.
	DIGITAL ASSEMBLY Consists of the following	A17N5MMA-001
	DIGITAL MAIN CBA UNIT FUNCTION CBA UNIT IR SENSOR CBA UNIT	A17N5MMA-001-DM A17N5MMA-001-FN A17N5MMA-001-IR
	MAIN CBA	
<b>You cannot mix components under Type 1 with the ones under Type 2.</b>		
<b>Type 1: ("78R000ZF" is engraved on Type 1 IC REGULATOR.)</b>		
IC202	IC REGULATOR KIA78R000ZF-RTF/P	NSCA0T0JY016
R202	RES CHIP 1608 1/10W F 9.1k Ω	RTW9101HH008
R203	RES CHIP 1608 1/10W F 510 Ω	RTW5100HH008
R204	RES CHIP 1608 1/10W F 1k Ω	RTW1001HH008
 <p>← Make sure to use this IC202 with R202 (9.1k Ω) and R203 (510 Ω) and R204 (1k Ω).</p>		
<b>or</b>		
<b>Type 2: ("200WNA1" is engraved on Type 2 IC REGULATOR.)</b>		
IC202	IC(REGULATOR) PQ200WNA1ZPH	QSZBA0TSH072
R202	RES CHIP 1608 1/10W F 8.2k Ω	RTW8201HH008
R203	RES CHIP 1608 1/10W F 680 Ω	RTW6800HH008
R204	RES CHIP 1608 1/10W F 2.2k Ω	RTW2201HH008
 <p>← Make sure to use this IC202 with R202 (8.2k Ω) and R203 (680 Ω) and R204 (2.2k Ω).</p>		

Ref. No.	Description	Part No.
<b>You cannot mix components under Type 1 with the ones under Type 2.</b>		
<b>Type 1: ("78R000ZF" is engraved on Type 1 IC REGULATOR.)</b>		
IC631	IC REGULATOR KIA78R000ZF-RTF/P	NSCA0T0JY016
R646	RES CHIP 1608 1/10W F 1k Ω	RTW1001HH008
R653	RES CHIP 1608 1/10W F 1.4k Ω	RTW1401HH008
 <p>← Make sure to use this IC631 with R646 (1k Ω) and R653 (1.4k Ω).</p>		
<b>or</b>		
<b>Type 2: ("200WNA1" is engraved on Type 2 IC REGULATOR.)</b>		
IC631	IC(REGULATOR) PQ200WNA1ZPH	QSZBA0TSH072
R646	RES CHIP 1608 1/10W F 2.2k Ω	RTW2201HH008
R653	RES CHIP 1608 1/10W F 330 Ω	RTW3300HH008
 <p>← Make sure to use this IC631 with R646 (2.2k Ω) and R653 (330 Ω).</p>		

# TYPE B


## PARTS LIST [LC190SS2 (Serial No.: TH1)]

### Mechanical Parts


**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTE:** Parts that are not assigned part numbers (-----) are not available.

Ref. No.	Description	Part No.
	STAND ASSEMBLY A17N3UT	1ESA26466
A1	FRONT CABINET A91N3UH	1EM023685
A3	CONTROL PLATE A91N3UH	1EM325763
A4	REAR CABINET A01N0UH	1EM124316
A5	DECORATION PLATE A17N2UT	1EM225869
A6 	RATING LABEL A17N2UT	-----
A8	JACK LABEL A9DN0UH	1EM430877
A9	JACK HOLDER(A) A17N3UT	1EM225263
A10	JACK HOLDER(D) A94N0UH	1EM222784
A24	ENERGY STAR LABEL A91F2UH	-----
B1	SHIELD BOX A17N3UT	1EM225363
B2	STAND HOLDER A94N0UH	1EM325619
B3	WALL MOUNT BRACKET A84N0UH	1EM323797
B4	PCB STUD A91N0UH	1EM326198
B7	GASKET A8AF0UH	1EM425861
B8	SPEAKER HOLDER A94N0UH	1EM325677
B44	THERMAL SHEET TMS-14-20 12X12	XK10000X4011
CL201	WIRE ASSEMBLY 11PIN FFC 11PIN 75MM	WX1A94N0-105
CL701	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL861	WIRE ASSEMBLY 2PIN 2PIN/75MM/AWG 26	WX1A01N0-002
CL862	WIRE ASSEMBLY 2PIN 2PIN/75MM/AWG 26	WX1A01N0-002
CL3701	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL3702	WIRE ASSEMBLY 29PIN FFC 29PIN 70MM	WX1A94F0-111
CL3902	WIRE ASSEMBLY 24PIN FFC 24PIN 65MM	WX1A94N0-106
L1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L2	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L3	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L4	SCREW S-TIGHT M3X8 BIND HEAD+	GBHS3080
L5	SCREW TAP TIGHT M3X10 BIND HEAD+BLK NI	GBHS3100
L8	ASSEMBLED SCREW M3X10	1EM420633A
L9	DOUBLE SEMS SCREW M4X10 + BLK	FPH34100
L11	HEX SCREW #4-40 7MM	1EM430139
L12	ASSEMBLED SCREW ( D9 M3X6 ) A71F0UH	1EM424392B
L17	STAND SCREW KIT A01N6UT	1ESA24406
LCD1	LCD MODULE 18.5INCH WIDE CMO 18.5INCH WXGA	UJ19MXA
SP861	SPEAKER S0307F03	DS08070XQ001
SP862	SPEAKER S0307F03	DS08070XQ001
<b>PACKING</b>		
S1	CARTON A17N2UT	1EM434118
S2	STYROFOAM TOP A91N8UT	1EM024305
S3	STYROFOAM BOTTOM A91N8UT	1EM024306

Ref. No.	Description	Part No.
S4	SET BAG A81N0UH	1EM323958A
S5	SERIAL NO. LABEL A01PBUH	-----
S6	STAND BAG A81N0UH	1EM425888
<b>ACCESSORIES</b>		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2 	OWNERS MANUAL A17N2UT	1EMN27340
X3	REMOTE CONTROL NH210UD	NH210UD
X4	DRY BATTERY R03/2S	XB0M451T0006
X6	QUICK START GUIDE A17N2UT	1EMN27342
X10	REGISTRATION CARD (SYLVANIA) A17N2UT	1EMN27762

# Electrical Parts

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

## NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%    D.....±0.5%    F.....±1%  
 G.....±2%    J.....±5%    K.....±10%  
 M.....±20%    N.....±30%    Z.....+80/-20%

## DIGITAL MAIN CBA UNIT

Ref. No.	Description	Part No.
	DIGITAL MAIN CBA UNIT	A17N2MMA-001

## MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	A17N3MP1-001
<b>CAPACITORS</b>		
C201	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C202	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C203	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C204	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C207	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C209	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C214	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C215	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C216	CHIP CERAMIC CAP.(1608) B K 1µF/16V	CHD1CK30B105
C217	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C218	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C219	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C220	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C221	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C301	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C302	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C303	ELECTROLYTIC CAP. 330µF/10V M	CE1AMASDL331
C304	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C305	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C306	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C309	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C310	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C311	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C401	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C601 	CAP METALIZED FILM 0.47µF/300V K 3.5MM	CT2F474DC004
C603	CAP ELECTROLYTIC 270µF/200V	CEA271DYG005
C604	CAP POLYESTER FILM 0.039µF/100V J	CA2A393SER02
C605	CAP POLYESTER FILM 0.0012µF/100V J	CA2A122SER02
C606	CERAMIC CAP. 560pF/2KV	CA3D561PAN04
C607	CAP POLYESTER FILM 0.082µF/100V J	CA2A823SER02
C608	CAP POLYESTER FILM 0.0018µF/100V J	CA2A182SER02

Ref. No.	Description	Part No.
C631	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C632	ELECTROLYTIC CAP. 1000µF/35V M	CE1GMZPDL102
C633	CERAMIC CAP. B K 1500pF/1KV	CCD3AKNOB152
C636 	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C638	ELECTROLYTIC CAP. 2200µF/6.3V M	CE0KMZPDL222
C639	ELECTROLYTIC CAP. 2200µF/6.3V M	CE0KMZPDL222
C641	ELECTROLYTIC CAP. 3300µF/10V M	CE1AMZPDL332
C643	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZPDL102
C645	CAP POLYESTER FILM 0.0022µF/100V J	CA2A222SER02
C646	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C647	ELECTROLYTIC CAP. 100µF/10V M H7	CE1AMAVSL101
C648	ELECTROLYTIC CAP. 47µF/25V M H7	CE1EMAVSL470
C649	ELECTROLYTIC CAP. 220µF/10V M H7	CE1AMAVSL221
C650	ELECTROLYTIC CAP. 220µF/10V M H7	CE1AMAVSL221
C652	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C653	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C654	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C655	ELECTROLYTIC CAP. 22µF/50V M H7	CE1JMAVSL220
C656	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C661	ELECTROLYTIC CAP. 3.3µF/50V M	CE1JMASDL3R3
C681	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C682	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C683	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C684	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C685	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C691 	CAP CERAMIC 4700pF/250V/MKX	CA2E472MR101
C692 	SAFTY CAP 2200pF/250V KX	CA2E222MR101
C802	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C805	ELECTROLYTIC CAP. 330µF/25V M	CE1EMASDL331
C806	ELECTROLYTIC CAP. 330µF/25V M	CE1EMASDL331
C807	CHIP CERAMIC CAP.(1608) B K 0.022µF/25V	CHD1EK30B223
C808	CHIP CERAMIC CAP.(1608) B K 0.022µF/25V	CHD1EK30B223
C809	CHIP CERAMIC CAP.(1608) B K 1µF/16V	CHD1CK30B105
C810	CHIP CERAMIC CAP.(1608) B K 1µF/16V	CHD1CK30B105
C811	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C812	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C813	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C816	CHIP CERAMIC CAP. CH J 820pF/50V	CHD1JJ3CH821
C817	CHIP CERAMIC CAP. CH J 820pF/50V	CHD1JJ3CH821
C825	CHIP CERAMIC CAP.(1608) B K 1µF/16V	CHD1CK30B105
C826	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C827	CHIP CERAMIC CAP.(1608) B K 1µF/16V	CHD1CK30B105
C828	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C829	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C830	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C831	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C832	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C833	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1001	CAP CERAMIC (AX) 2200pF/50V/BK	CA1J222TU061
C1002	CAP POLYESTER FILM 0.022µF/100V J	CA2A223SER02
C1003	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1004	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1005	CAP POLYESTER FILM 0.022µF/100V J	CA2A223SER02
C1006	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1007	CAP CERAMIC (AX) 2200pF/50V/BK	CA1J222TU061
C1008	CAP CERAMIC HV 10pF/6.3KV/SLJ	CCA1000MR001
C1009	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1010	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1011	ELECTROLYTIC CAP. 1000µF/35V M	CE1GMZPDL102



Ref. No.	Description	Part No.
C1012	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1014	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCA1000MR001
C1015	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCA1000MR001
C1016	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C1018	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1019	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1020	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1023	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1024	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1025	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1026	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1027	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1028	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1031	CAP POLYESTER FILM 0.0027μF/100V J	CA2A272SER02
C1032	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1033	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1034	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1035	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1037	CHIP CERAMIC CAP. (1608) B K 1μF/16V	CHD1CK30B105
C1038	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1039	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1040	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1041	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1042	CHIP CERAMIC CAP.(1608) F Z 0.22μF/50V	CHD1JZ30F224
C1043	CHIP CERAMIC CAP.(1608) B K 0.22μF/16V	CHD1CK30B224
C1044	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1045	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1052	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1053	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C1054	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1056	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
<b>CONNECTORS</b>		
CN102	PH CONNECTOR TOP 8P B8B-PH-K-S (LF)(SN)	J3PHC08JG029
CN201	FFC CONNECTOR IMSA-9615S-11A-PP-A	JC96J11ER007
CN301	FFC CONNECTOR IMSA-9615S-29A-PP-A	JC96J29ER007
CN302	FFC CONNECTOR IMSA-9615S-29A-PP-A	JC96J29ER007
CN702	FFC CONNECTOR IMSA-9615S-29A-PP-A	JC96J29ER007
CN872	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)	J3PHC02JG029
CN1001▲	CONNECTOR PRINT OSU KW05-120-02-00	J30502KET001
CN1002▲	CONNECTOR PRINT OSU KW05-120-02-00	J30502KET001
<b>DIODES</b>		
D201	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D202	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
D203	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D204	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D205	DIODE ZENER 24BSB-T26	NDTC024BST26
D206	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D207	DIODE ZENER 7V5BSA-T26	NDTA6R5BST26
D208	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D209	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D210	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D303	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D401	DIODE FR104-B	NDLZ000FR104
D402	DIODE ZENER 10BSB-T26	NDTB010BST26
D404	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D405	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D406	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D407	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D408	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D409	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D410	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D411	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D412	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D413	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D414	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D416	DIODE ZENER 10BSB-T26	NDTB010BST26
D417	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D601▲	DIODE 1N5397BD	NDL1001N5397
D602▲	DIODE 1N5397BD	NDL1001N5397
D603▲	DIODE 1N5397BD	NDL1001N5397
D604▲	DIODE 1N5397BD	NDL1001N5397
D605	DIODE ZENER 4V3BSB-T26	NDTB4R3BST26
D606▲	DIODE ZENER 27BSB-T26	NDTB027BST26
D607▲	DIODE ZENER 39BSB-T26	NDTB039BST26
D608▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D610	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D612	DIODE ZENER 1ZB220-YBB	NDWZ01ZB220Y
D631	DIODE SCHOTTKY SB2A0BD	NDWZ000SB2A0
D632	DIODE SHOTTKY SB3200BR	NDWZ3200D027
D633▲	DIODE ZENER 1ZB43BB	NDWZ0001ZB43
D636	DIODE FR104-B	NDLZ000FR104
D637▲	DIODE ZENER 36BSB-T26	NDTB036BST26
D638	SCHOTTKY BARRIER DIODE SB240-B/P	NDWZ000SB240
D639	DIODE FAST RECOVERY FR151-B/P	NDWZ0FR151BP
D641	DIODE SCHOTTKY SB360BH	NDWZ000SB360
D642	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D643	FAST RECOVERY DIODE FR252	NDWZ000FR252
D645	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D646	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D648	DIODE ZENER HZS5.6NB2TE-EQ	QDTB0HZS5R6N
D649▲	DIODE ZENER 3V3BSB-T26	NDTB3R3BST26
D650	DIODE ZENER 6V8BSA-T26	NDTA6R8BST26
D651	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D653	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D654	DIODE FR154	NDLZ000FR154
D655	DIODE FR154	NDLZ000FR154
D656	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D657	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26
D659	SHUNT REGULATOR KIA431B-AT/P	NSZBA0TJY038
D660	WIRE CP STP-S-0.50	XZ40FOREN001
D662	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
D665	WIRE CP STP-S-0.50	XZ40FOREN001
D666	DIODE ZENER 10BSB-T26	NDTB010BST26
D668▲	DIODE ZENER 27BSB-T26	NDTB027BST26
D670	SCHOTTKY BARRIER DIODE SB160	NDWZ000SB160
D804	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D805	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D808	DIODE ZENER 20BSB-T26	NDTB020BST26
D809	DIODE ZENER 20BSB-T26	NDTB020BST26
D1001	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1002	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1003	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1004	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1005	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D1006	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1007	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1008	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1009	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1010	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1011	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1012	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1013	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1014	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1015	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D1016	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1018	DIODE ZENER 10BSB-T26	NDTB010BST26
D1020	DIODE ZENER 5V1BSB-T26	NDTB5R1BST26
D1021	DIODE ZENER 15BSB-T26	NDTB015BST26
D1022	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1023	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1026	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1027	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1028▲	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26
D1029	DIODE ZENER 16BSB-T26	NDTB016BST26
D1030	DIODE ZENER 16BSB-T26	NDTB016BST26
D1034	DIODE ZENER 9V1BSB-T26	NDTB9R1BST26
D1036	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1037	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1038	WIRE CP STP-S-0.50	XZ40F0REN001
D1045	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
<b>ICS</b>		
IC201	IC TL3472CDR	NSZBA0TTY115
IC601▲	PHOTO COUPLER LTV817MCF	NPECLTV817MF
IC631	IC LD1117V	NSZBA0SS046
IC801	AUDIO AMP IC TDA1517P/N3 112	NSCA0SNXP003
IC803	IC OP AMP NJM4558M(Te1)-#ZZB	QSZBA0TJR089
IC1001	IC PULSE-WIDTH-MODULATION CONT TL494CDR	NSCA0T0TY006
IC1002	IC OPERATIONNAL AMPLIFIER KIA358F-EL	NSZBA0TJY030
<b>COILS</b>		
L301	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
L302	CHIP INDUCTOR LK1608R22K-T	LLACKB3TUR22
L303	CHIP INDUCTOR LK1608R22K-T	LLACKB3TUR22
L601▲	LINE FILTER 5.0MH 96005	LLBG00ZKT004
<b>TRANSISTORS</b>		
Q171	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q172	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q201	TRANSISTOR 2SD400(F)	QQUF002SD400
Q202	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q203	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q205	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q206	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q207	TRANSISTOR 2SC2655-Y(Te6 F M)	QGSY2SC2655F
Q208	TRANSISTOR 2SA1020-Y(Te6 F M)	QGSY2SA1020F
Q209	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q210	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q401	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q402	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q601▲	FET MOS TK5A50D(FUNAI)	QEWZTK5A50DQ
Q602▲	TRANSISTOR 2SC2120-Y(Te2 F T)	QGSY2SC2120F
Q631	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q633	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q634	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q635	TRANSISTOR 2SC2120-Y(Te2 F T)	QGSY2SC2120F
Q636	TRANSISTOR 2SC2120-Y(Te2 F T)	QGSY2SC2120F
Q637	TRANSISTOR 2SC2120-Y(Te2 F T)	QGSY2SC2120F
Q638	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q639	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q640	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
Q641	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q643	TRANSISTOR 2SA950-Y(Te2 F T)	QGSY02SA950F
Q801	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1001	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1002	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P

Ref. No.	Description	Part No.
Q1003	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1004	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1005▲	FET MOS SMD TPC8214-H	QF2ZTPC8214H
Q1006	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1007	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1008	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1009	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1010	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1011	TRANSISTOR 2SA950-Y(Te2 F T)	QGSY02SA950F
Q1012	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1014	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1015	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1016	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1017	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1018	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1019	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1023	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1024	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
<b>RESISTORS</b>		
R172	RES CARBON FILM T 1/4W J 22k Ω	RCX4223T1001
R175	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R176	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R201	METAL OXIDE FILM RES. 1W J 5.6 Ω	RN015R6ZU001
R202	CHIP RES. 1/10W F 9.1k Ω	RRXAFR5H9101
R203	CHIP RES. 1/10W F 510 Ω	RRXAFR5H5100
R204	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R205	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R206	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R207	RES CARBON FILM T 1/4W J 6.8k Ω	RCX4682T1001
R208	RES CARBON FILM T 1/4W J 6.8k Ω	RCX4682T1001
R209	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R210	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R211	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R212	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R213	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R214	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R215	RES CARBON FILM T 1/4W J 330 Ω	RCX4331T1001
R216	RES CARBON FILM T 1/4W J 2.7k Ω	RCX4272T1001
R217	RES CARBON FILM T 1/4W J 2.7k Ω	RCX4272T1001
R218	RES CARBON FILM T 1/4W J 8.2k Ω	RCX4822T1001
R219	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R220	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R221	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R222	RES CARBON FILM T 1/4W J 120 Ω	RCX4121T1001
R223	RES CARBON FILM T 1/4W J 15k Ω	RCX4153T1001
R224	CHIP RES. 1/10W J 1 Ω	RRXAJR5Z01R0
R225	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R226	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R227	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R228	WIRE CP STP-S-0.50	XZ40F0REN001
R229	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R230	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R231	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R232	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R233	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R234	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R238	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R239	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R240	RES CARBON FILM T 1/4W J 3.9k Ω	RCX4392T1001
R302	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R303	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R304	CHIP RES. 1/10W J 56 Ω	RRXAJR5Z0560

Ref. No.	Description	Part No.
R305	CHIP RES. 1/10W J 56 Ω	RRXAJR5Z0560
R313	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R401▲	CHIP RES. 1/10W J 1 Ω	RRXAJR5Z01R0
R402	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H5601
R403	CHIP RES. 1/10W F 36k Ω	RRXAFR5H3602
R406	RES CARBON FILM T 1/4W J 47k Ω	RCX4473T1001
R407	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R408	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R409	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R411	RES CARBON FILM T 1/4W J 22k Ω	RCX4223T1001
R412	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R413	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R601▲	GLASS GLAZE RES. 1/2W J 1M Ω	RXX2JZLZ0105
R602	CEMENT RES. 3W K 1.2 Ω	RW031R2PG007
R603	RES CARBON FILM 1/4W J 390k Ω	RCX4394FS002
R604	RES CARBON FILM 1/4W J 390k Ω	RCX4394FS002
R605	RES CARBON FILM 1/4W J 390k Ω	RCX4394FS002
R606	RES CARBON FILM 1/4W J 330k Ω	RCX4334FS002
R607	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R608	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R609	RES CARBON FILM T 1/4W J 1.5k Ω	RCX4152T1001
R610▲	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39ZU001
R611	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R612	RES CARBON FILM T 1/4W J 220 Ω	RCX4221T1001
R631	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R632	RES CHIP 1608 1/10W D 1.10k Ω	RTW1101HH007
R633	RES CHIP 1608 1/10W D 10.0k Ω	RTW1002HH007
R634	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R635	RES CARBON FILM T 1/4W J 220 Ω	RCX4221T1001
R637	RES CARBON FILM T 1/4W J 220 Ω	RCX4221T1001
R638	RES CARBON FILM T 1/4W J 2.7k Ω	RCX4272T1001
R639	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R640	CHIP RES. 1/10W F 18k Ω	RRXAFR5H1802
R641	CHIP RES. 1/10W F 120 Ω	RRXAFR5H1200
R642	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R643	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R644	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R645	CHIP RES. 1/10W F 7.5k Ω	RRXAFR5H7501
R646	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R647	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R648	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R649▲	RES CARBON FILM T 1/4W J 680 Ω	RCX4681T1001
R650	RES CARBON FILM T 1/4W J 680 Ω	RCX4681T1001
R651▲	RES CARBON FILM T 1/4W J 15 Ω	RCX4150T1001
R652	WIRE CP STP-S-0.50	XZ40FOREN001
R653	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R654	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R655	RES CARBON FILM T 1/4W J 470 Ω	RCX4471T1001
R656	RES CARBON FILM T 1/4W J 680 Ω	RCX4681T1001
R658	RES CARBON FILM T 1/4W J 2.7k Ω	RCX4272T1001
R659	RES. CARBON FILM J 1/2W J 2.7 Ω	RCX227R71003
R660	RES CHIP 1608 1/10W D 10.0k Ω	RTW1002HH007
R661	RES CARBON FILM T 1/4W J 680 Ω	RCX4681T1001
R662	RES CARBON FILM T 1/4W J 39 Ω	RCX4390T1001
R663	RES CARBON FILM T 1/4W J 3.3 Ω	RCX43R3T1001
R664	RES CARBON FILM T 1/4W J 3.9 Ω	RCX43R9T1001
R665	RES CARBON FILM T 1/4W J 3.9 Ω	RCX43R9T1001
R666	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R667	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R668	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R669	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R670	RES CARBON FILM T 1/4W J 270 Ω	RCX4271T1001
R671	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001

Ref. No.	Description	Part No.
R672	METAL OXIDE RES. 1W J 0.18 Ω	RN01R18ZU001
R673	CHIP RES. 1/10W F 3.6k Ω	RRXAFR5H3601
R674	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R675	RES CARBON FILM T 1/4W J 1.0k Ω	RCX4102T1001
R676	RES CARBON FILM T 1/4W J 22 Ω	RCX4220T1001
R677	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R679	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R681	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R682	WIRE CP STP-S-0.50	XZ40FOREN001
R683	METAL OXIDE FILM RES. 1W J 3.3 Ω	RN013R3ZU001
R684	METAL OXIDE FILM RES. 1W J 3.3 Ω	RN013R3ZU001
R685	CHIP RES. 1/10W F 620 Ω	RRXAFR5H6200
R686	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R688	RES CARBON FILM T 1/4W J 1.0 Ω	RCX41R0T1001
R689	RES CARBON FILM T 1/4W J 33 Ω	RCX4330T1001
R690	RES CARBON FILM T 1/4W J 3.3 Ω	RCX43R3T1001
R699	RES CARBON FILM T 1/4W J 56 Ω	RCX4560T1001
R803	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R804	CHIP RES. 1/10W J 8.2 Ω	RRXAJR5Z08R2
R805	CHIP RES. 1/10W J 8.2 Ω	RRXAJR5Z08R2
R806	WIRE CP STP-S-0.50	XZ40FOREN001
R807	WIRE CP STP-S-0.50	XZ40FOREN001
R808	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R809	CHIP RES. 1/10W J 360 Ω	RRXAJR5Z0361
R810	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R811	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R813	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R814	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R815	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R816	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R817	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R818	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R819	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R820	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R821	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R823	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R826	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R830	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R834	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R836	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R837	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R838	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R842	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1001	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1002	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R1003	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1004	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1005	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1006	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R1007	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R1008	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1009	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1010	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R1011	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1012	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1013	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1014	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1015	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1017	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1018	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R1019	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R1020	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1022	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333

Ref. No.	Description	Part No.
R1023	CHIP RES. 1/10W J 10k $\Omega$	RRXAJR5Z0103
R1024	CHIP RES. 1/10W F 22k $\Omega$	RRXAFR5H2202
R1025	CHIP RES. 1/10W J 1.5k $\Omega$	RRXAJR5Z0152
R1026	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R1027	CHIP RES. 1/10W J 5.1k $\Omega$	RRXAJR5Z0512
R1028	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1029	RES CARBON FILM T 1/4W J 1.8k $\Omega$	RCX4182T1001
R1030	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1031	RES CARBON FILM T 1/4W J 4.7k $\Omega$	RCX4472T1001
R1032▲	METAL OXIDE FILM RES. 2W J 0.33 $\Omega$	RN02R33ZU001
R1035	CHIP RES. 1/10W F 1.0k $\Omega$	RRXAFR5H1001
R1036	CHIP RES. 1/10W F 15k $\Omega$	RRXAFR5H1502
R1037	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
R1038	CHIP RES. 1/10W J 240k $\Omega$	RRXAJR5Z0244
R1039	CHIP RES. 1/10W F 68k $\Omega$	RRXAFR5H6802
R1040	CHIP RES. 1/10W F 6.2k $\Omega$	RRXAFR5H6201
R1041	CHIP RES. 1/10W F 1.0k $\Omega$	RRXAFR5H1001
R1042	CHIP RES. 1/10W J 22k $\Omega$	RRXAJR5Z0223
R1043	CHIP RES. 1/10W F 5.1k $\Omega$	RRXAFR5H5101
R1044	RES CARBON FILM T 1/4W G 5.1k $\Omega$	RCX4512T1002
R1045	CHIP RES. 1/10W J 240k $\Omega$	RRXAJR5Z0244
R1046	CHIP RES. 1/10W J 24k $\Omega$	RRXAJR5Z0243
R1048	CHIP RES. 1/10W J 22k $\Omega$	RRXAJR5Z0223
R1049	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1050	CHIP RES. 1/10W J 390k $\Omega$	RRXAJR5Z0394
R1051	CHIP RES. 1/10W J 390k $\Omega$	RRXAJR5Z0394
R1052	CHIP RES. 1/10W F 100k $\Omega$	RRXAFR5H1003
R1054	CHIP RES. 1/10W F 5.6k $\Omega$	RRXAFR5H5601
R1055	CHIP RES. 1/10W F 51.0 k $\Omega$	RRXAFR5H5102
R1056	CHIP RES. 1/10W F 100k $\Omega$	RRXAFR5H1003
R1058	CHIP RES. 1/10W F 10k $\Omega$	RRXAFR5H1002
R1059	CHIP RES. 1/10W F 10k $\Omega$	RRXAFR5H1002
R1060	CHIP RES. 1/10W J 10k $\Omega$	RRXAJR5Z0103
R1061	CHIP RES. 1/10W J 33k $\Omega$	RRXAJR5Z0333
R1062	CHIP RES. 1/10W J 390k $\Omega$	RRXAJR5Z0394
R1064	CHIP RES. 1/10W J 33k $\Omega$	RRXAJR5Z0333
R1065	RES CARBON FILM T 1/4W J 2.7k $\Omega$	RCX4272T1001
R1066	RES CARBON FILM T 1/4W J 2.7k $\Omega$	RCX4272T1001
R1067	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1068	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1069	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1070	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1071	CHIP RES. 1/10W F 4.3k $\Omega$	RRXAFR5H4301
R1072	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
R1073	CHIP RES. 1/10W F 1.2k $\Omega$	RRXAFR5H1201
R1074	RES CARBON FILM T 1/4W J 100k $\Omega$	RCX4104T1001
R1081	CHIP RES. 1/10W F 100k $\Omega$	RRXAFR5H1003
R1082	CHIP RES. 1/10W F 68k $\Omega$	RRXAFR5H6802
R1083	CHIP RES. 1/10W F 1M $\Omega$	RRXAFR5H1004
R1084	CHIP RES. 1/10W J 100k $\Omega$	RRXAJR5Z0104
R1086	CHIP RES. 1/10W F 100k $\Omega$	RRXAFR5H1003
R1087	CHIP RES. 1/10W F 68k $\Omega$	RRXAFR5H6802
R1088	CHIP RES. 1/10W F 1M $\Omega$	RRXAFR5H1004
R1089	CHIP RES. 1/10W F 12k $\Omega$	RRXAFR5H1202
R1090	CHIP RES. 1/10W F 47.0 k $\Omega$	RRXAFR5H4702
R1091	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1092	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1093	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1094	RES CARBON FILM T 1/4W J 12k $\Omega$	RCX4123T1001
R1095	RES CARBON FILM T 1/4W J 1.2k $\Omega$	RCX4122T1001
R1099	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R1100	WIRE CP STP-S-0.50	XZ40FOREN001
R1105	CHIP RES. 1/10W J 3.3k $\Omega$	RRXAJR5Z0332

Ref. No.	Description	Part No.
R1106	CHIP RES. 1/10W J 10k $\Omega$	RRXAJR5Z0103
R1107	CHIP RES. 1/10W J 10k $\Omega$	RRXAJR5Z0103
R1108	WIRE CP STP-S-0.50	XZ40FOREN001
R1109	CHIP RES. 1/10W F 2.2k $\Omega$	RRXAFR5H2201
R1110	CHIP RES. 1/10W J 10k $\Omega$	RRXAJR5Z0103
R1111	RES CARBON FILM T 1/4W J 10k $\Omega$	RCX4103T1001
R1112	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
R1117	WIRE CP STP-S-0.50	XZ40FOREN001
R1118	RES CARBON FILM T 1/4W J 1.2 $\Omega$	RCX41R2T1001
<b>MISCELLANEOUS</b>		
AC601▲	AC CORD PB8K9F9110A-057	WAC0172LW008
B13	HEAT SINK PMU A8A70UH	1EM324377
B14	POW HEAT SINK A7120UH	1EM423993
BC301	CHIP INDUCTOR BK1608HS601-T	LLC601NTU017
BC601	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC801	CHIP INDUCTOR BK1608HS601-T	LLC601NTU017
F601▲	FUSE STC4A125V U/CT	PAGE20CW3402
FH601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JS304	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
JS305	WIRE CP STP-S-0.50	XZ40FOREN001
JS306	WIRE CP STP-S-0.50	XZ40FOREN001
JS801	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
JS802	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
JS803	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
JS804	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
JS1005	WIRE CP STP-S-0.50	XZ40FOREN001
JS1007	WIRE CP STP-S-0.50	XZ40FOREN001
JS1011	WIRE CP STP-S-0.50	XZ40FOREN001
JS1012	WIRE CP STP-S-0.50	XZ40FOREN001
L13	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA601▲	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
T601▲	TRANS POWER BCK-28-9923	LTT2PC0XB044
TM601	EYELET TYPE D-1	0VM406868
TM602	EYELET TYPE D-1	0VM406868
T1002▲	TRANS INVERTER HVT-160	LTT3P20XB014
TU302	TUNER UNIT ATSC TDAU4-D05A	UTNATS0AL002

## JACK ASSEMBLY

Ref. No.	Description	Part No.
	JACK ASSEMBLY Consists of the following	A17N3MJC-001
	JACK CBA(MJC-A) FUNCTION CBA(MJC-B)	A17N3MJC-001-JK A17N3MJC-001-FN

## JACK CBA

Ref. No.	Description	Part No.
	JACK CBA(MJC-A) Consists of the following	-----
<b>CAPACITORS</b>		
C703	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105
C704	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105
C723	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105
C724	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105
C731	CHIP CERAMIC CAP. CH J 39pF/50V	CHD1JJ3CH390
C732	CHIP CERAMIC CAP. CH J 39pF/50V	CHD1JJ3CH390
C733	CHIP CERAMIC CAP. CH J 39pF/50V	CHD1JJ3CH390
C734	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
C735	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
C736	CHIP RES.(1608) 1/10W 0 $\Omega$	RRXAZR5Z0000
C743	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105
C744	CHIP CERAMIC CAP. (1608) F Z 1 $\mu$ F/16V	CHD1CZ30F105

Ref. No.	Description	Part No.
C753	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C756	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
C757	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C758	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C771	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C772	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C773	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C775	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C776	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C841	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C842	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C843	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C845	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
<b>CONNECTORS</b>		
CN701	FFC CONNECTOR IMSA-9615S-29A-PP-A	JC96J29ER007
CN871	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)	J3PHC02JG029
<b>DIODES</b>		
D701	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D702	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D703	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D704	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D705	DIODE ZENER 8V2BSB-T26	NDTB8R2BST26
D706	DIODE ZENER 8V2BSB-T26	NDTB8R2BST26
D707	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D708	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
D709	DIODE ZENER 8V2BSB-T26	NDTB8R2BST26
D710	ZENER DIODE EDZTE618.2B	QD1B00EDZ8R2
<b>IC</b>		
IC771	IC SWITCHING TC4052BF(ELNF)	QSZBA0TTS162
<b>COILS</b>		
L851	WIRE CP STP-S-0.50	XZ40FOREN001
L852	WIRE CP STP-S-0.50	XZ40FOREN001
L853	WIRE CP STP-S-0.50	XZ40FOREN001
<b>TRANSISTORS</b>		
Q722	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q771	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q773	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q774	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q841	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
<b>RESISTORS</b>		
R711	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R712	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R717	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R718	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R721	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R722	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R727	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R728	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R731	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5H75R0
R732	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5H75R0
R733	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5H75R0
R734	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R735	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R736	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R741	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R742	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R747	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R748	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R753	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R754	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R755	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104

Ref. No.	Description	Part No.
R758	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R763	RES CARBON FILM T 1/4W J 56k Ω	RCX4563T1001
R764	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R772	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R773	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R774	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R775	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R780	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R781	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R782	RES CARBON FILM T 1/4W J 82k Ω	RCX4823T1001
R783	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R784	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R785	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R786	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R787	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R788	RES CARBON FILM T 1/4W J 82k Ω	RCX4823T1001
R789	RES CARBON FILM T 1/4W J 82k Ω	RCX4823T1001
R790	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R791	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R792	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R793	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R794	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R795	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R796	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R797	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R843	CHIP RES. 1/10W J 110 Ω	RRXAJR5Z0111
R844	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R845	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R846	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R847	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R848	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R851	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R852	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
<b>MISCELLANEOUS</b>		
BC771	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC841	CHIP INDUCTOR BK1608HS601-T	LLC601NTU017
JK711	JACK HPEP SML PCB S PJ-358H	JXSJ020YUQ01
JK721	JACK RCA PCB S WHITE 01/RCA-101H(WH)	JXRJ010YUQ02
JK722	JACK RCA PCB S RED 01/RCA-101H(RD)	JXRJ010YUQ01
JK731	JACK RCA PCB S GREEN 01/RCA-101H(GN)	JXRJ010YUQ03
JK732	JACK RCA PCB S BLUE 01/RCA-101H(BL)	JXRJ010YUQ04
JK733	JACK RCA PCB S RED 01/RCA-101H(RD)	JXRJ010YUQ01
JK741	JACK RCA PCB S WHITE 01/RCA-101H(WH)	JXRJ010YUQ02
JK742	JACK RCA PCB S RED 01/RCA-101H(RD)	JXRJ010YUQ01
JK752	JACK RCA PCB L RCA-141-01	JXRL01YUQ005
JK753	JACK RCA PCB L RCA-101S(1)-04	JXRL010YUQ13
JK754	JACK SW RCA PCB L RCA-102F(RD)	JYRL010YUQ05
JK841	JACK RCA PCB S ORANGE 01/RCA-101H(OR)	JXRJ010YUQ06
JK851	JACK SW HPEP SML PCB L PJ-350	JYSL010YUQ03
JS701	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000

## FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA(MJC-B) Consists of the following:	-----
<b>CAPACITORS</b>		
C103	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C104	CHIP CERAMIC CAP. B K 330pF/50V	CHD1JK30B331
C107	CHIP CERAMIC CAP. (1608) F Z 1μF/16V	CHD1CZ30F105
C108	CAP CERAMIC (AX) 0.1μF/50V/FZ	CA1J104TU062
C109	CAP CERAMIC (AX) 0.1μF/50V/FZ	CA1J104TU062

Ref. No.	Description	Part No.
<b>DIODES</b>		
D101	ZENER DIODE EDZTE61 6.8B	QD1B00EDZ6R8
D103	LED L-53HT	NP4Z000L53HT
D104	LED GREEN 333GT/E(FNA)	NPWZ333GTEFNA
D105	CAP CERAMIC (AX) 0.1 $\mu$ F/50V/B/K	CA1J104TU061
<b>RESISTORS</b>		
R106	RES CARBON FILM T 1/4W J 100 $\Omega$	RCX4101T1001
R107	CHIP RES. 1/10W J 3.3k $\Omega$	RRXAJR5Z0332
R108	CHIP RES. 1/10W J 220 $\Omega$	RRXAJR5Z0221
R109	CHIP RES. 1/10W J 220 $\Omega$	RRXAJR5Z0221
R110	CHIP RES. 1/10W J 1k $\Omega$	RRXAJR5Z0102
R111	CHIP RES. 1/10W F 18k $\Omega$	RRXAFR5H1802
R112	CHIP RES. 1/10W F 13k $\Omega$	RRXAFR5H1302
R113	CHIP RES. 1/10W F 2.7k $\Omega$	RRXAFR5H2701
R114	CHIP RES. 1/10W F 2.2k $\Omega$	RRXAFR5H2201
R115	CHIP RES. 1/10W F 2.2k $\Omega$	RRXAFR5H2201
R116	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R118	CHIP RES. 1/10W F 10k $\Omega$	RRXAFR5H1002
<b>SWITCHES</b>		
SW104	TACT SWITCH SKHHLMA010	SST0101AL049
SW105	TACT SWITCH SKHHLMA010	SST0101AL049
SW106	TACT SWITCH SKHHLMA010	SST0101AL049
SW107	TACT SWITCH SKHHLMA010	SST0101AL049
SW108	TACT SWITCH SKHHLMA010	SST0101AL049
SW109	TACT SWITCH SKHHLMA010	SST0101AL049
<b>MISCELLANEOUS</b>		
CL101	WIRE ASSEMBLY 8PIN 8PIN/100MM/AWG 26	WX1A01N0-001
RS101	SENSOR REMOTE RECEIVER KSM-712TH2E	USESJRSK044

		20110314	
		19ME601B/F7(A11N5UH)(Serial No.: DS2)	
Ref. No.	Description	Parts No.	
MECHANICAL PARTS			
	STAND ASSEMBLY A1170UH	1ESA28505	
A1	FRONT CABINET A11N0UH	1EM027625	
A2	REAR CABINET A11N0UH	1EM027626	
A8	JACK HOLDER A17N1UH	1EM225424	
A10	CONTROL PLATE A11N0UH	1EM330577	
A11	SENSOR LENS A11N0UH	1EM226005	
A12!	RATING LABEL A11N5UH	-----	
A15	ENERGY STAR LABEL A91F2UH	-----	
A40	LED LENS A11N0UH	1EM226006	
A42	ENERGY GUIDE LABEL A11N5UH	-----	
AC601!	AC CORD W/O A GND WIRE UL/CSA/1700/NO/BLACK	WAC1720LW005	
B5	STAND BRACKET A11N0UH	1EM226007	
B18	GASKET A8AF0UH	1EM425861	
B22	WALL MOUNT BRACKET A11N0UH	1EM434637	
B32	SENSOR SHIELD A11N0UH	1EM330637	
B47	WALL MOUNT COVER A11N0UH	1EM330718	
B48	MODULE SPACER A11N0UH	1EM330638	
CL601	FFC WIRE ASSEMBLY 19PIN 19PIN/75MM	WX1A11N5-102	
CL1001	FFC WIRE ASSEMBLY 6PIN 6PIN/228MM	WX1A11N5-101	
CL3006	FFC WIRE 30PIN 30PIN/138MM	WX1A11N5-103	
CL3102	WIRE ASSEMBLY 7PIN 7PIN/280MM/RED/BLACK	WX1A11N5-201	
CL3103	WIRE ASSEMBLY 2PIN 2PIN/90MM/RED/BLACK	WX1A11N5-205	
CL3801	WIRE ASSEMBLY 2PIN 2PIN/75MM/RED/BLACK	WX1A11N5-203	
CL3802	WIRE ASSEMBLY 2PIN 2PIN/145MM/RED/BLACK	WX1A11N5-204	
CL4051	WIRE ASSEMBLY 3PIN 3PIN/43MM/RED/BLACK	WX1A11N5-202	
L14	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060	
L16	SCREW P-TIGHT 3X12 BIND HEAD+ BLK	GBHP3120	
L25	S-TIGHT SCREW M3X6 BIND HEAD+BLACK	GBHS3060	
L28	STAND SCREW KIT A1170UH	1ESA28511	
LCD1	LCD MODULE 18.5INCH 18.5INCH	UK19MXB	
SP3801	SPEAKER MAGNETIC 8OHM/3.5W S0307F06A	DS08070XQ003	
SP3802	SPEAKER MAGNETIC 8OHM/3.5W S0307F06A	DS08070XQ003	
S1	CARTON A11N5UH	1EM434937	
S3	STYROFOAM TOP A11N0UH	1EM027745	
S4	STYROFOAM BOTTOM A11N0UH	1EM027746	
S5	SET BAG A81N0UH	1EM323958A	
S6	SERIAL NO. LABEL A01PBUH	-----	
S7	POLYETHYLENE BAG HDPE 180X340XT0.03	1EM435579	
X1	POLYETHYLENE BAG HDPE 180X340XT0.03	1EM435579	
X2!	OWNERS MANUAL A1170UH	1EMN28066	
X3	REMOTE CONTROL NF805UD	NF805UD	
X4	DRY BATTERY R03/2S	XB0M451T0006	
X6	QUICK START GUIDE A1170UH	1EMN28067	
X7	REGISTRATION CARD (MAGNAVOX) A17N0UH	1EMN27759	
ELECTRICAL PARTS			
	DIGITAL ASSEMBLY	A11N5MMA-001	
	Consists of the following		
	DIGITAL MAIN CBA UNIT	A11N5MMA-001-DM	
	FUNCTION CBA UNIT	A11N5MMA-001-FN	
	IR SENSOR CBA UNIT	A11N5MMA-001-IR	
	LED CBA UNIT	A11N5MMA-001-LE	
	MAIN CBA	A1170MPW-001	

C607!	CAP METALIZED FILM 0.47UF/300V K 3.5MM	CT2F474DC004
C608	CAP ELE 220UF/200V/M/85	CEB2210S6016
C610	CHIP CERAMIC CAP. B K 0.039UF/50V	CHD1JK30B393
C611	CHIP CERAMIC CAP. B K 1200PF/50V	CHD1JK30B122
C612	CERAMIC CAP. 820PF/2KV	CA3D821PAN04
C613	CHIP CER. BK 0.082UF/50V	CHD1JK30B823
C614	CHIP CERAMIC CAP.(1608) B K 1000PF/50V	CHD1JK30B102
C616	ELECTROLYTIC CAP. 470UF/25V M	CE1EMASDL471
C617	CERAMIC CAP. 1500PF/2KV	CA3D152PAN04
C622	ELECTROLYTIC CAP. 220UF/10V M	CE1AMASDL221
C623	ELECTROLYTIC CAP. 470UF/25V M	CE1EMASDL471
C625	CHIP CERAMIC CAP. B K 2200PF/50V	CHD1JK30B222
C626!	SAFTY CAP. 2200PF/250V KX	CA2E222MR101
C627!	SAFTY CAP. 1000PF/250V KX	CA2E102MR101
C628!	CAP CERAMIC 100PF/250V KX	CA2E101MR100
C630	ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL1R0
C632	ELECTROLYTIC CAP. 470UF/25V M	CE1EMASDL471
C633	ELECTROLYTIC CAP. 470UF/25V M	CE1EMASDL471
C1001	CHIP CERAMIC CAP.(1608) B K 1UF/25V	CHD1EK30B105
C1002	CHIP CERAMIC CAP.(1608) B K 1UF/25V	CHD1EK30B105
C1003	ELECTROLYTIC CAP. 330UF/25V M	CE1EMASDL331
C1004	CHIP CERAMIC CAP.(1608) B K 1UF/25V	CHD1EK30B105
C1005	CHIP CERAMIC CAP.(3216) X7R K 1.0UF/100V	CA2A105MR080
C1006	CHIP CERAMIC CAP.(3216) X7R K 1.0UF/100V	CA2A105MR080
C1010	ELECTROLYTIC CAP. 47UF/100V M	CE2AMASDL470
C1011	CHIP CERAMIC CAP.(1608) B K 1000PF/50V	CHD1JK30B102
C1012	CHIP CERAMIC CAP. B K 470PF/50V	CHD1JK30B471
C1013	CHIP CERAMIC CAP.(1608) B K 0.47UF/16V	CHD1CK30B474
C1015	CHIP CERAMIC CAP.(1608) B K 4.7UF/6.3V	CHD0KK30B475
C1016	CHIP CERAMIC CAP.(1608) B K 1000PF/50V	CHD1JK30B102
C1017	CHIP CERAMIC CAP.(1608) F Z 0.1UF/50V	CHD1JZ30F104
C1018	CERAMIC CAP. 100PF/2KV	CA3D101PAN04
C1020	CHIP CERAMIC CAP.(3216) X7R K 1.0UF/100V	CA2A105MR080
CN601	FMN CONNECTOR TOP 19P IMSA-9615S-19A-PP-A	JC96J19ER007
CN603!	VH CONNECTOR PRINT OSU B2P3S-VH(LF)(SN)	J3VH030JG002
CN1001	FFC CONNECTOR 6P IMSA-9615S-06C-PP-A	JC96J06ER009
D601	DIODE ZENER 1ZB220-YBB	NDWZ01ZB220Y
D608	DIODE ZENER 10BSB-T26	NDTB010BST26
D609!	DIODE 1N5397BD	NDL1001N5397
D610!	DIODE 1N5397BD	NDL1001N5397
D611!	DIODE 1N5397BD	NDL1001N5397
D612!	DIODE 1N5397BD	NDL1001N5397
D613	DIODE ZENER 4V3BSB-T26	NDTB4R3BST26
D614!	DIODE ZENER 27BSB-T26	NDTB027BST26
D615!	DIODE ZENER 1ZB36BB	NDWZ0001ZB36
D616!	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D618	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D619	DIODE SHOTTKY SB3200BR	NDWZ3200D027
D620	DIODE ZENER 1ZB30BB	NDWZ0001ZB30
D627	DIODE SK16-T/R	ND1Z0000SK16
D629	DIODE SCHOTTKY SMD SK2B-TR	ND1Z00SK2BTR
D630	DIODE ZENER 1ZB20BB	NDWZ0001ZB20
D634	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D635	DIODE ZENER 3V3BSB-T26	NDTB3R3BST26
D636	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D637	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D640	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D641	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D642	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D657	DIODE SK16-T/R	ND1Z0000SK16

D658	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D660	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26
D661	DIODE FAST RECOVERY SMD GR1G	ND1Z00GR1GTR
D662	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D663	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D664	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D665	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1001	DIODE SCHOTTKY SBI A0BB	NDWZ000SB1A0
D1002	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1004	DIODE ZENER 27BSB-T26	NDTB027BST26
D1005	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
IC601!	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
IC1001	IC LED BACKLIGHT CONTROLLER HA7202PC /SOP /24PIN	NSCA0T00H001
L601!	LINE FILTER 27H-9014/5MH	LLEG0ZDEL003
L1001	COIL POWER INDUCTORS DIP RCR1010NP-470M/47UH	LLF4700SF012
Q607!	MOS FET TK5A50D(LS1FND.Q)/Z	QEEZTK5A50DQ
Q608!	TRANSISTOR 2SC2120-Y(T-E2 F T)	QQSY2SC2120F
Q609	CHIP TRANSISTOR 2SC2412K(R) T146	QQ8R2SC2412K
Q610	CHIP TRANSISTOR 2SC2412K(R) T146	QQ8R2SC2412K
Q611	TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q615	CHIP TRANSISTOR 2SC2412K(R) T146	QQ8R2SC2412K
Q616	CHIP TRANSISTOR 2SC2412K(R) T146	QQ8R2SC2412K
Q631	CHIP TRANSISTOR 2SC2412K(R) T146	QQ8R2SC2412K
Q1001	FET MOS RSD050N10TL	QF1ZSD050N10
R623	RES CHIP 1608 1/10W J 22K OHM	RRXA223HH013
R624	RES CHIP 1608 1/10W J 22K OHM	RRXA223HH013
R625!	GLASS GLAZE RES. 1/2W J 1M OHM	RXX2JZLZ0105
R626	RES CEMENT 3W J 1.2 OHM	RWJ1R2PAK004
R627	CHIP RES. 1/4W J 390K OHM	RRX4JR7Z0394
R628	CHIP RES. 1/4W J 390K OHM	RRX4JR7Z0394
R629	CHIP RES. 1/4W J 390K OHM	RRX4JR7Z0394
R630	CHIP RES. 1/4W J 390K OHM	RRX4JR7Z0394
R631	RES CARBON FILM T 1/4W J 330 OHM	RCX4331T1001
R632	RES CARBON FILM T 1/4W J 330 OHM	RCX4331T1001
R633	RES CARBON FILM T 1/4W J 1.2K OHM	RCX4122T1001
R634!	METAL OXIDE FILM RES. 2W J 0.68 OHM	RN02R68ZU001
R635	RES CARBON FILM T 1/4W J 2.2K OHM	RCX4222T1001
R636	RES CARBON FILM T 1/4W J 220 OHM	RCX4221T1001
R639	RES CARBON FILM T 1/4W J 1.5K OHM	RCX4152T1001
R642	RES CARBON FILM T 1/4W J 270 OHM	RCX4271T1001
R643	RES CARBON FILM T 1/4W J 3.9K OHM	RCX4392T1001
R645	RES CHIP 1608 1/10W F 18.0K OHM	RTW1802HH008
R646	RES CHIP 1608 1/10W F 820 OHM	RTW8200HH008
R647	RES CHIP 1608 1/10W F 22.0K OHM	RTW2202HH008
R648	RES CHIP 1608 1/10W F 24.0K OHM	RTW2402HH008
R649	RES CHIP 1608 1/10W 0 OHM	RRXA000HH014
R650	RES CHIP 1608 1/10W 0 OHM	RRXA000HH014
R652	RES CHIP 1608 1/10W J 47K OHM	RRXA473HH013
R653	RES CHIP 1608 1/10W J 10K OHM	RRXA103HH013
R654	RES CARBON FILM T 1/4W J 220 OHM	RCX4221T1001
R655	RES CARBON FILM T 1/4W J 220 OHM	RCX4221T1001
R656	RES CARBON FILM T 1/4W J 15 OHM	RCX4150T1001
R657	WIRE CP STP-S-0.50	XZ40F0REN001
R661	RES CARBON FILM T 1/4W J 220 OHM	RCX4221T1001
R673	RES CHIP 1608 1/10W J 1.0 OHM	RRXA1R0HH013
R674	RES CHIP 1608 1/10W F 22.0K OHM	RTW2202HH008
R675	RES CHIP 1608 1/10W F 30.0K OHM	RTW3002HH008
R677	RES CARBON FILM T 1/4W J 22K OHM	RCX4223T1001
R678	RES CHIP 1608 1/10W J 47K OHM	RRXA473HH013
R679	RES CHIP 1608 1/10W J 10K OHM	RRXA103HH013

R680	RES CARBON FILM T 1/4W J 270 OHM	RCX4271T1001
R681	RES CARBON FILM T 1/4W J 270 OHM	RCX4271T1001
R682	RES CARBON FILM T 1/4W J 220 OHM	RCX4221T1001
R684	RES CHIP 1608 1/10W J 56K OHM	RRXA563HH013
R685	RES CHIP 1608 1/10W J 6.8K OHM	RRXA682HH013
R686	RES CHIP 1608 1/10W J 10K OHM	RRXA103HH013
R687	RES CHIP 1608 1/10W J 2.7K OHM	RRXA272HH013
R1002	RES CHIP 1608 1/10W F 560K OHM	RTW5603HH008
R1003	RES CHIP 1608 1/10W F 360K OHM	RTW3603HH008
R1004	RES CHIP 1608 1/10W F 27.0K OHM	RTW2702HH008
R1005	RES CHIP 1608 1/10W 0 OHM	RRXA000HH014
R1006	RES CHIP 1608 1/10W J 10 OHM	RRXA100HH013
R1007	METAL OXIDE RES. 1W J 0.24 OHM	RN01R24ZU001
R1009	RES CHIP 1608 1/10W F 20.0K OHM	RTW2002HH008
R1010	RES CHIP 1608 1/10W F 1.50K OHM	RTW1501HH008
R1011	RES CHIP 1608 1/10W F 100K OHM	RTW1003HH008
R1012	RES CHIP 1608 1/10W J 100 OHM	RRXA101HH013
R1013	RES CHIP 1608 1/10W F 100 OHM	RTW1000HH008
R1019	RES CHIP 1608 1/10W J 10K OHM	RRXA103HH013
R1020	RES CHIP 1608 1/10W J 100K OHM	RRXA104HH013
R1021	RES CHIP 1608 1/10W J 10K OHM	RRXA103HH013
R1022	RES CHIP 1608 1/10W J 100K OHM	RRXA104HH013
R1023	RES CHIP 1608 1/10W J 1.0K OHM	RRXA102HH013
R1030	RES CARBON FILM T 1/4W J 18K OHM	RCX4183T1001
R1031	RES CARBON FILM T 1/4W J 18K OHM	RCX4183T1001
R1032	RES CHIP 1608 1/10W J 240 OHM	RRXA241HH013
R1033	RES CHIP 1608 1/10W J 240 OHM	RRXA241HH013
B62	HEAT SINK PNI A11N5UH	1EM435557
BC001	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC601	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1001	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1002	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F601!	FUSE STC4A125V U/CT	PAGE20CW3402
FH601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JS1001	WIRE CP STP-S-0.50	XZ40F0REN001
L3	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA601!	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
T601!	TRANS POWER 11706	LTT2PC0KT070



# REVISION HISTORY

## Chassis FL11.0

- 2011-02-14 LC190EM2 (Serial No. : TH1) added
- 2011-02-14 LC190SS2 (Serial No. : TH1) added
- TBD 19MF301B/F7 (Serial No. : TH1) added
- TBD LC190EM2 (Serial No. : TH2) added
- TBD 19ME601B/F7 (Serial No. : DS2) added

# COMPARISON LIST OF MODEL NAME

## Chassis FL11.0

19MF301B/F7	(TH1)	A17N7UT
LC190EM2	(TH1)	A17N5UT
	(TH2)	A17N8UT
LC190SS2	(TH1)	A17N2UT
19ME601B/F7	(DS2)	A11N5UH